MALTA

IMPERIAL MYCOLOGICAL INSTITUTE
7 OCT 1939

ANNUAL REPORT

ON THE WORKING OF THE

DEPARTMENT OF AGRICULTURE

DURING

1937-38.

Published by Authority

MALTA
GOVERNMENT PRINTING OFFICE

1939

SOME WEIGHTS AND MEASURES.

MALTESE AND ENGLISH EQUIVALENTS.

	Maltese		*English*
1. *Weights*			
	1 rotolo	=	1.75 lbs.
	1 Qantar (100 rotoli)	=	175 lbs.
	1280 rotoli	=	1 ton.
2. *Measures*			
(*a*) *Wine*	1 barile	=	9.50 gallons
(*b*) *Land*	1 tummolo	=	0.27 acres
	3.6 tummoli	=	1 acre
	1 salma (16 tummoli)	=	4.4 acres
(*c*) *Volume*	1 salma (16 tummoli, 96 mondelli)	=	64 gallons or 1 quarter.

NOTE:—For sulla and straw, in Malta 1 soma is a load of 10 bundles. In Gozo, 1 soma is a load of 8 bundles, but the weight per load is roughly the same as in Malta.

MALTA

Report of the Department of Agriculture for the year 1937-38.

OFFICE OF AGRICULTURE — MALTA.
Valletta, 12th April, 1939.

Sir,

I have the honour to forward the report on the Agriculture of Malta for the Agricultural Year 1937-38 ending in November, 1938, and on the working of the Department of Agriculture during the financial year 1937-38.

I have the honour to be,
Sir,
Your obedient servant,

G. MICALLEF,
Director of Agriculture.

His Honour,
The Lieutenant-Governor.

REPORT OF THE DIRECTOR.

I.

ADMINISTRATION.

STAFF.

The Department has been fortunate in securing the services, on a five years' contract, of Mr. H. Hirst, M.Sc., Agric. Dip. (Cantab), N.D.A., N.D.D., who took up his duties as Adviser in Animal Husbandry on the 31st December, 1937.

The Horticulturist (Mr. J. DeBrincat) and the Assistant Horticulturist (Mr. L. Darmanin) finished their training abroad towards the end of summer 1938 and have resumed their duties in the Experimental Farm and Stock Station immediately on their return to Malta.

Dr. Peralta's post graduate training at the Imperial College of Science and Technology, South Kensington, has been extended by one year, and he will take up his duties here by the end of next summer.

Mr. Paris, the Assistant Superintendent of Public Gardens and Plantations, has passed successfully the first year of the Final Science Examination at the University of Reading.

The student selected for training in Agriculture at the South Eastern Agricultural College, Wye, for filling the post of Viticulturist and Oenologist, has failed to sit for the Intermediate Science Examination in June 1938, and his training has consequently been terminated.

Legislation.

A very important Ordinance was enacted during the year, namely the Cattle Breeding Ordinance No. XXXII of 1938. The Cattle Breeding Regulations made in virtue of the same Ordinance were published on the 20th January, 1939.

The chief object of the Cattle Breeding Ordinance and relative Regulations is the compulsory licensing of stud bulls and the keeping of stud books. The Ordinance will enable the Department to eliminate undesirable scrub bulls and to obtain the desired improvement in the shortest possible time. The outstanding success of the Boar Breeding Ordinance No. XXIX of 1937, which had the same objects in view, has justified the introduction of similar legislation in regard to dairy cattle.

By Ordinance No. XXI of the 20th September, 1938, the Veterinary Service was detached from the Medical and Health Department and transferred under the Department of Agriculture.

Additional regulations published by Government Notice No. 90 of the 21st February, 1938, were also made concerning the grading of onions.

Special Reports.

This Report includes the following special reports on the work of the various branches :—

(a) Report on the Għammieri Experimental Farm and Stock Station by the Superintendent of the Experimental Farm and Agricultural Organizer — Appendix 1;

(b) Report on Viticulture by the Oenologist — Appendix 2;

(c) Report on Public Gardens and Plantations by the Superintendent of Public Gardens and Plantations — Appendix 3;

(d) Report on Plant Pathology — Appendix 4;

(e) Report on Agricultural Exports by the Adviser in Agricultural Marketing and Controller of Agricultural Exports — Appendix 5;

(f) Report on Soil Preservation by the Soil Engineer — Appendix 6.

The report on the Veterinary Service for the year under review was included with the Annual Report of the Medical and Health Department, 1937-38.

Revenue and Expenditure.

The actual revenue collected during the year 1937-38 amounted to £3,842. 9. 11 as compared with £3,244. 5. 0½ for the previous year; while the expenditure reached £30,688. 2. 9½ as against £28,970. 12. 1½ for the year 1936-37. These figures are exclusive of those for Veterinary Service.

Detailed figures for the Revenue and Expenditure for the financial years 1936-37 and 1937-38 are given in Tables 1 and 2 respectively.

II.

STATISTICS.

General Survey of the Agricultural Year 1937-38.

The rainy season started very early. The first useful rains, amounting to ¾ inches, fell on the 3rd September, 1937, and rain continued to fall at short intervals up to the 10th of the same month, amounting in certain localities to 2 inches. The rainfall, totalling around 3 inches by the end of September, was soon followed by the germination of crops, thus anticipating the commencement of the agricultural year by one month. The average rainfall of Malta and Gozo for the year under review amounted to 27 inches, as compared with 17 inches during the preceding year.

The unirrigated crop of winter potatoes developed early, ripening almost at the same time as the irrigated crop. The plants kept vigorous and healthy and no traces of disease were evident. Forage crops and vegetables were also most promising owing to the early rains in September. Light showers fell in mid-October and then a long spell of dry weather followed, sometimes with strong, hot scirocco winds. Unfortunately the prolonged hot weather and the scarcity of rain were responsible for a serious out-

break of insect pests, the cabbage white butterfly and the yellow small butterfly assuming the proportions of a veritable plague. They appeared late in October and continued to ravage crops for the whole month of November to mid-December. Whole fields of cabbages and cauliflowers were completely stripped of their foliage, notwithstanding the particular attention of farmers. So fierce was the outbreak that in certain parts of the Island, such as the eastern and central districts, not only vegetables were badly attacked but even potato plants and sulla leaves. These insect pests continued to work havoc till mid-December, when they were destroyed by a hail-storm coupled with the heavy downpour of rain which fell on the 17th and 18th December. The prices of vegetables were dear for the whole season.

A strong gale with high N. E. winds, accompanied by fiercely driving rain in early January damaged the fruit trees and hindered the planting of potatoes and onions. Again heavy downpours of rain, associated with very strong winds, were experienced during the night of the 19th/20th February, 1938. The average rainfall in 24 hours reached about 6 inches.

Rainfall during February and after was well over average, totalling 23½ inches. Light showers fell during April and the season closed with an accumulated amount of rainfall of 27 inches, very beneficial to fruit trees after two successive dry years.

On the whole, the agricultural year for 1937-38 may be described as satisfactory. The spring potato crop, vetches, forages, grapes, oranges and stone fruits gave an over-average yield; on the other hand the yields of cereal, bean and vegetable crops were rather poor.

Crops.

The estimated total area of the various crops cultivated during the year 1937-38 was 43,160 acres, not including 31 acres estimated as planted with tobacco. In addition it is estimated that 5,604 acres were planted with second crops. The area under cultivation was distributed as follows: 19,864 acres under cereals; 13,950 area under vegetables, including melons and tomatoes; 9,727 acres under forage crops; 954 acres under cumin and cotton; and 3,349 acres under vines and fruit trees.

The area under permanent irrigation is now about 1,150 acres; the rest of the land being dry-farmed. The number of mechanical oil engines, pumps and other appliances for the raising of water for irrigation in Malta and Gazo, as compared with that of 1936-37, are tabulated below:—

	Air Motors		Oil engines and centrifugal pumps		Water Mills "Noria"		Other Mechanical Appliances		Total	
	1936-37	1937-38	1936-37	1937-38	1936-37	1937-38	1936-37	1937-38	1936-37	1937-38
Malta	377	397	108	132	239	232	86	74	810	835
Gozo	116	141	53	55	16	23	23	30	208	249
Totals ...	493	538	161	187	255	255	109	104	1,018	1,084

Wheat.

The area under wheat amounted to 9,766 acres as against 9,415 acres in the preceding year. The increase in acreage is due chiefly to rotational changes. The preparation of the land for wheat was favoured by the dry weather and the light showers which fell during October. Germination was regular, but in early sowings the growth of the plans was somewhat checked by the hot, dry winds in late November and early December, but they recovered shortly after December. Proper tillage was handicapped by the heavy rains of January and February, so that the young wheat took some time to emerge from the luxuriant growth of weeds.

The good storage of moisture in the soil and the mild spring favoured the growth of the plants but the yield was considerably reduced by the hot and dry winds during the period of grain formation. Furthermore, in some districts wheat suffered from rust, in consequence of which this year's crop compares unfavourably with that of previous years. The total production was estimated at 36,965 qrs., which is equivalent to 30.3 bushels per acre, as compared with an estimated yield of 40,811 qrs. in 1937, and an average yield of 30.4 bushels in the preceding ten years.

Barley.

Barley was grown on an area of 5,071 acres, this acreage being almost exactly the same as that in 1936-37. This year's figure includes 1,904 acres of meslin and 196 acres of barley in Gozo, as against last year's figure of 1,988 acres of meslin and 167 acres of barley. The remaining 2,971 acres were grown in Malta. The total production was estimated at 25,540 qrs., made up of 16,972 qrs. of barley and 8,568 qrs. of meslin, as compared with 18,562 qrs. of barley and 9,953 qrs. of meslin in the previous year. The low yield in grain was compensated by the abundant crop of straw, which is valued rather more than the grain. Barley-straw is saved entire and is used for bedding for farm animals, while wheat-straw is threshed out into fine material and is used as feeding stuff for animals. Both wheat and barley-straw were comparatively cheap.

Vetches.

The area under vetches consisted of 2,783 acres as against last year's 2,605 acres. The estimated production amounted to 10,433 qrs., as against 8,464 qrs. in the preceding year. The crop was good, the average yield being 3.7 qrs. per acre, as compared with an average yield of 2.6 qrs .per acre during during the preceding four years.

Maize.

The area under maize was very restricted, amounting to only 293 acres, slightly over last year's area of 281 acres. However, while last year's cultivation was limited owing to lack of moisture in the soil, this year's cultivation was limited owing to the second crop of sulla, harvested just before the sowing of maize. As in previous years most of the maize was used as green fodder for animals during summer. The production was estimated at 6,950 qrs. as against 8,526 qrs. in 1937.

Broad Beans.

The area under broad beans amounted to 1,951 acres, as compared with 1,931 acres in the preceding year; and the production was estimated as 6,950 qrs. as against an estimated production of 8,526 qrs. last year. The yield was poor owing to attacks by broad bean rust during the podding period. Broom-rape was not prevalent as in previous years, except in some localities as Mellieħa and l-Aħrax, where farmers are still sowing early.

Winter Potatoes.

Winter potatoes were grown on an area of 3,660 acres as compared with 4,187 acres in the previous year. The estimated yield amounted to 7,320 tons as against last year's yield of 8,176 tons. Since substantial rain fell in September, germination of the non-irrigated winter crop of potatoes was fairly early and, favoured by the warm sunny days in October, easily reached in growth the irrigated crop. There was no blight and progress was rapid owing to warm weather; but a strong dry wind in mid-November terminated growth almost generally throughout the Island some three or four weeks before the crop would have reached maturity, with the result that the crop was small and the tubers were generally undersized though clean from soil and free from blight. Prices varied from 6 to 4 skudi per qantar, but the average price was 4½ skudi per qantar.

Spring Potatoes.

The area under spring potatoes amounted to 4,982 acres, as against 5,498 acres in 1937. The yield was estimated at 19,670 tons, against last year's production of 23,786 tons. The early and main crops were free from disease and heavy yields of good quality tubers were obtained; however, the late crop was not successful, owing to attacks

of blight. Spraying with Bordeaux mixture was carried out by many growers ; but there are still farmers, especially in the West Distrct, who do not care to spray their potato fields, with the consequent result that they reap a poor, infected crop.

The imports of seed potatoes during 1937-38 season amounted to a total of 74,680 cwts., made up as follows :— 33,431 cwts. Champion, 24,725 cwts. Up-to-date, 16,100 cwts. Arran Banner, 391 cwts. Northern Invincible, and 33 cwts. Miscellaneous. There was a decrease in seed imports for the spring crop, but imports of seed of white fleshed varieties for United Kingdom shipment (principally Up-to-date and Arran Banner) showed a considerable increase. The condition of the seed was again this year good, and free from disease, so that farmers had very little or no losses to deplore on account of diseased or rotten tubers. Practically all the imported seed was sown, with the exception of some 600 bags which were sold for table use. Planting was hindered by the abundant rains falling in late January and in February, and moreover, the weather at this time of the year was intensely cold and retarded germination. Growth was also checked by ground frost in late February and early March. Moth appeared again this year, but late in spring, when more than half of the crop had already been exported.

The export of spring potatoes to the United Kingdom was maintained and around 4,500 tons of white-fleshed potatoes were exported to that country and good prices were also realized. Although the crisis duties imposed by the Dutch Government on local potatoes are still in force, Holland imported around 5,500 tons of the spring crop potatoes of the "Champion" yellow flesh variety. The average price was £7. 9. 4. per ton. As last year, a large stock of the spring and summer potatoes were stored for local consumption, but many of the tubers were again destroyed by moth. The total production was equivalent to 4.0 tons per acre as compared with an average yield of 3.7 tons per acre in the preceding ten years.

Summer Potatoes.

Summer potatoes were grown on an area of 200 acres with an estimated production of 1,000 tons. The corresponding figures last year amounted to 245 acres and an estimated production of 1,732 tons. Since the introduction of the white-fleshed Arran Banner variety, most of the planting for the summer crop are being made with this variety. The average price for the summer crop of potatoes was £6. 8. 0 per ton.

The production of the winter, spring and summer crops of potatoes, during 1937-38 season is, therefore, estimated at a total of 28,090 tons, with a wholesale cash value of £189,045. 6. 8.

Onions.

The total area under onions was estimated at 1,382 acres, as against last year's 1,359 acres. The yield was estimated at 9,138 tons as compared with last year's 7,831 tons. The slight increase in the acreage is due to the good prices realized and the brisk export during the last two seasons. The seedlings were perfectly healthy, and the weather in autum was never so damp for a prolonged period so as to cause the seedlings to rot.

After transplanting, the growth was entirely satisfactory and free from disease, but the heavy rains during winter, and the occasional rainfalls during spring retarded the ripening of the bulbs and reduced their keeping qualities.

Despite the heavy crop obtained this year, which averaged 6.6 tons per acre, the the prices realized were very good, and the average price paid to farmers being 6s/- per qantar.

Cumin.

The area under cumin amounted to 908 acres, which means a further fall of 212 acres below last year's 1,220 acres. The mean area under cumin during the preceding ten years was 1,588 acres. Production was estimated at 3,500 cwts., equivalent to 3.8 cwts. per acre, as compared with 4,033 cwts. last year and an average yield of 4.9 cwts. during the preceding ten years. The seeds were sound, free from insect damage and fungous diseases, but the yield per acre has, since five or six seasons, been below normal. The prices of cumin seed are still low and unremunerative, and this explains why the acreage under cumin has been dropping. The average price for the grower was £2. 10s. per qantar or £1. 12s. per cwt.

Cotton.

Cotton was grown on an area of 46 acres, including 39 acres grown in Gozo. Last year's total acreage amounted to 51 acres. The production was estimated at 10,400 lbs., as compared with the preceding year's 11,060 lbs. Production was under average and prices remained low as before.

Forages.

The total area under forages amounted to 9,727 acres as against last year's 9,752 acres, and 9,720 acres in the preceding ten years. The estimated production amounted to 686,855 "some" or loads of ten bundles, as compared with last year's estimated production of 448,338 "some" or loads. This year's figures include 6,922 acres grown with sulla with an estimated yield of 447,465 "some" or loads, 1,734 acres grown with caterpillar with an estimated yield of 164,570 "some" or loads, and 1, 071 acres grown with green-barley with an estimated yield of 74,820 "some" or loads. The average production per acre is this year 70.6 "Some", as compared with an average production per acre of 55.9 "some" during the preceding ten years.

Vegetables.

The area under vegetables, including dry-farmed vegetables, such as cabbages and cauliflowers, amounted to 2,321 acres, as against 2,183 acres in the previous year. The production being estimated at 157,300 cwts., as against last year's production of 158,021 cwts. Cabbages and all other varieties of 'Brassica oleracea' were heavily attacked by caterpillars, and prices were high practically all the year round. Other vegetables, such as early peas, globe artichokes, beets, carrots and lettuces, were not affected by these pests and were fairly abundant on the market.

Tomatoes.

The area under tomatoes during last summer and autum amounted to a total of 745 acres, with an estimated production of 50,280 cwts., as compared with an acreage of 780 and an estimated production of 52,760 cwts. in the preceding year. This season, with a total rainfall of around 27 inches and sufficient moisture in the soil, the produce of tomatoes was of the very best. The type for canning and for the manufacture of tomato extracts has notably improved. Farmers' prices averaged 2s. 10d. per qantar.

Melons and Water Melons.

Last summer the total area under melons and water melons in both Islands amounted to 660 acres, of which fully 396 acres were grown in Gozo. The production was estimated at 45,740 cwts. Last year's acreage and production were estimated at 568 acres and 38,443 cwts. respectively. Practically the whole of this produce is consumed locally. The average price was 5s. 4d. per cwt.

Citrus Fruits.

The area under citrus fruits was 195 acres. The crop was estimated at 158,265 dozen, as compared with 155,185 dozen last year. During the year the mports of citrus fruits, mostly from Sicily, amounted to 731,226 dozen, consisting of: 587,746 dozen oranges, 34,014 dozen mandarines, 102,880 dozen lemons and 6,588 dozen grape fruit.

Grapes.

The area under vineyards is on the increase, this year's planting amounting to 105 acres, which brings the total to 2,049 acres under vine. Of these no less than 1,408 acres are in Gozo. The production of grapes was estimated at 101,570 cwts., against 62,305 in the preceding year. The area under productive vines is around 1,750 acres. The average yield of 58,0 cwts. per acre is rather more than satisfactory. As usual only a comparatively small percentage of grapes was consumed fresh, and the bulk of the crop, estimated at 100,000 cwts., was manufactured into wine, and should have yielded 125,000 barili of wine, equivalent to 1,187,500 Imperial gallons. The grape crop was sound and abundant, and prices were good, averaging about 8s. 6d. per cwt.

Other Fruits.

The area under other fruits consisted of 1,105 acres. The total production was estimated at 78,685 cwts., as against 73,980 cwts. in the preceding year. The fruit trees were remarkably healthy, and as regards quality, the production was satisfactory throughout the whole season, stone fruits being particularly fine. The fruit-fly did not appear until late in July and in very small quantities, when the crop of stone fruits had practically been picked. Prices were very cheap. The average yield per acre was 71.2 cwts., as compared with 67.9 cwts. in the preceding ten years.

Tobacco.

Small plots of tobacco were grown, the total area in Malta and Gozo being 31 acres (Malta, 3 acres; Gozo, 28 acres), the yield being estimated at 173 cwts. The crop is consumed locally.

All the production is consumed locally, and it has been grown commercially on a limited scale for some years past, the average price being £3. 10. 4 per cwt.

III.

EXPORTS OF AGRICULTURAL PRODUCE.

The value of field and garden produce during the year was estimated at £667,110 consisting chiefly of potatoes £189,045, onions £35,105, other vegetable including tomatoes £77,360, grapes £43,167, melons £12,197, other fruits £33,464, wheat and barley £96,165 and forage crops £103,028. The value of locally produced meat, eggs and dairy produce was estimated as slightly over that of crops.

Of these £174,509 worth were exported.

The principal agricultural exports during the calendar year 1937 consisted of potatoes, onions and cumin seed. Details are given in the Report of the Controller of Agricultural exports (Appendix V) and in Table 12 while comparative values of agricultural and other exports are shown in graphic form in Table 11.

IV.

TABLES.

The following is a list of tables attached to the Director's Report :—

Tables 1 and 2 — Revenue and Expenditure for the financial years 1936-37 and 1937-38.

Table 3 — Monthly and total rainfall for the year 1937-38, as compared with that of 1936-37.

Table 4 — Acreage under different crops.

Table 5 — Estimated quantities of agricultural produce.

Table 6 — Acreage and yields of the principal crops in 1938 as compared with the average acreages and yields during the preceding ten years.

Table 7 — Estimated values of crops grown in these Islands.

Table 8 — Average prices of agricultural produce.

Table 9 — Police Returns of Livestock on the 31st December, 1937.

Table 10 — Return of imported eggs.

Table 11 — Comparative values of exports of agricultural produce and other articles.

Table 12 — Quantities and values of exports of agricultural produce.

Table 1. Statement of Revenue for 1937-38 as compared with the revenue for 1936-37.

Head and Item of Revenue.	1936-37			1937-38			Increase			Decrease		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
V. FEES OF OFFICE AND REIMBURSEMENTS												
A. Fees of Office.												
Agriculture.												
Licences and Certificates	119	15	0	128	10	0	8	15	0	—	—	—
B. Reimbursements.												
Sale of vegetables from Experimental Farm	412	3	6	503	19	8	91	16	2	—	—	—
Sale of vines, rootlings, &c. from vine nurseries	376	2	7	285	19	5½	—	—	—	9	13	1
Sale of trees, plants, &c. from public plantations	—	—	—	80	10	-½	—	—	—	—	—	—
Sale of fruits, &c., from S. Anton Gardens	720	5	1	199	13	11	—	—	—	11	3	2
Sale of fruits, &c. from Buskett Gardens ...				509	8	0	—	—	—			
Sale of chemicals, hire of spraying pumps, &c.	23	11	2	28	17	4	5	6	2	—	—	—
Inspection of agricultural produce, &c. ...	325	3	9	444	12	9	119	9	0	—	—	—
Sale of livestock from Experimental Farm ...	1,015	16	6	1,392	15	1	376	18	7	—	—	—
Sale of goats' milk &c.	—	—	—	181	9	8	181	9	8	—	—	—
Miscellaneous Reimbursements.												
Miscellaneous	251	7	5	86	14	0	—	—	—	164	13	5
	3,244	5	—	3,842	9	11	783	14	7	185	9	8
XII. RECEIPTS UNDER THE WIDOWS & ORPHANS PENSIONS ACT, 1927.												
Contributions under the W.&O. Pens: Act, 1927	121	17	6	131	5	0	9	7	6	—	—	—
XIII. MISCELLANEOUS RECEIPTS.												
Miscellaneous	4	1	1	18	5	0	14	3	11	—	—	—

Table 2. Statement of actual Expenditure for 1937-38 as compared with the expenditure for 1936-37.

Head & subheads of Expenditure	1936-37			1937-38			Increase			Decrease		
I. ANNUAL EXPENDITURE.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
A. Personal Emoluments	10,582	9	0	10,958	12	8	376	3	8	—	—	—
B. Other Charges.												
General Service												
Transport	479	15	4	245	11	2	—	—	—	81	8	8
Upkeep of motor car, motor cycle, etc. ...				152	15	6						
Stationery, purchase of publications for reference library and cost of departmental publications	169	19	10	200	2	5	30	2	7	—	—	—
Water supply, lighting & electric current ...	34	11	2	28	7	10	—	—	—	6	3	4
Incidental expenses	46	17	7	43	18	2	—	—	—	2	19	5
Rent of telephones	91	11	3	123	7	11	31	16	8	—	—	—
Compilation of Statistics	99	0	3	98	15	3	—	—	—	—	5	0
Subsidy to the Agrarian Society, Malta ...	225	0	0	225	0	0	—	—	—	—	—	—
Towards the improvement of Agriculture £105												
Towards the upkeep of the Society's Experimental Farm £20												
Towards the holding of agricultural competitions £77												
Towards encouraging the growing of vines & fruit trees £13												
For prizes to exhibitors of the best Malta mule-breeding donkeys £10												
Subsidy to the Board of Agriculture, Gozo ...	208	0	0	200	0	0	—	—	—	8	0	0
Subsidy to the Horticultural Society ...	80	0	0	80	0	0	—	—	—	—	—	—
Subsidy to the M.S.P.C.A.	50	0	0	125	0	0	75	0	0	—	—	—
Subsidy to the Fur and Feather Association for holding Annual Shows	350	0	0	200	0	0	—	—	—	150	0	0
Subsidy to the Malta Horse Show	80	0	0	50	0	0	—	—	—	30	0	0
Subsidies and grants of beehives & appliances for the encouragement of modern apiculture	55	6	3	59	18	5	4	12	2	—	—	—
Contribution to the Colonial Agricultural Service Fund	25	0	0	25	0	0	—	—	-	—	—	-
Part contribution to the Imperial Bureaus of Agriculture, Entomology and Mycology ...	150	0	0	155	0	0	5	0	0	—	—	—
Uniforms	27	13	3	29	11	5	1	18	2	—	—	—
Stamps and other expenses in connection with the Workmen's Compensation Ordinance	47	1	2	56	0	0	8	18	10	—	—	—
Expenses in connection with agricultural competitions	69	8	7	200	2	2	130	13	7	—	—	—
Expenses in connection with the Working of the Fertile Soil Ordinance of 1936 ...	612	19	0	600	0	0	—	—	—	12	19	0
Expenses in connection with Agricultural Parish Competitions	70	11	4	39	13	8	—	—	—	30	17	8
Expenses in connection with instructional visits of farmers to Experimental Farms ...	53	15	8	93	12	10	39	17	2	—	—	—
Experimental Farms.												
Maintenance, &c. of Government stud farm and experimental farms	3,584	18	9	4,076	19	1	492	0	4	—	—	—
Purchase and distributions of seeds, fertilizers &c. in connection with demonstrations on private farms	16	8	3	46	6	9	29	18	6	—	—	—
Water, lighting and electric current	18	5	7	40	4	6	21	18	11	—	—	—
Training of Horticulturist and Assistant Horticulturist	—	—	—	460	0	0	460	0	0	—	—	—
Animal Husbandry.												
Expenses in connection with the prevention of animal diseases	307	7	8	194	2	11	—	—	—	113	4	9
Premiums to breeders of licensed pedigree stock and other connected charges	867	18	6	555	0	7	—	—	—	312	17	11
Training of a student in Animal Husbandry in England	125	0	0	—	—	—	—	—	—	125	0	0
Carried forward.	18,528	18	5	19,363	3	3	1,708	0	7	873	15	9

Table 2. Statement of actual Expenditure for 1937-38 as compared with the expenditure for 1936-37—*cont.*

Head & subheads of Expenditure	1936-37			1937-38			Increase			Decrease		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
B. Other Charges.—*cont.*												
Brought forward ...	18,528	18	5	19,363	3	3	1,708	0	7	873	15	9
Viticulture and Oenology.												
Maintenance of nurseries, &c., in Malta and Gozo	720	15	5	713	11	10	—	—	—	7	3	7
Maintenance of Experimental Vineyards in Malta and Gozo including premiums to growers	67	16	11	95	8	10	27	11	11	—	—	—
Expenses in connection with Oenology including maintenance of Laboratory	4	19	2	32	14	5	27	15	3	—	—	—
Technical instruction to young farmers in the American vine nurseries and at Buskett, in viticulture, and cultivation of fruit trees	48	12	3	199	12	9	151	0	6	—	—	—
Temporary allowance to the Oenologist for extra service in connection with Viticulture	80	0	0	80	0	0	—	—	—	—	—	—
Training of one student in general Agriculture and Oenology	200	0	0	225	0	0	25	0	0	—	—	—
Gardens and Plantations.												
Maintenance, &c. of Public gardens, nurseries and plantations	2,932	2	3	3,082	0	7	149	18	4	—	—	—
Maintenance of Buskett Public Gardens ...	635	3	1	596	1	8	—	—	—	39	1	5
Maintenance, &c. of S. Antonio and Verdala Private Gardens.	248	9	6	290	19	2	42	9	8	—	—	—
Water supply to ditto and to vine nurseries	211	13	3	191	8	11	—	—	—	20	4	4
Planting trees in Malta & Gozo	594	11	1	492	10	3	—	—	—	102	0	10
Training of one student in Horticulture ...	150	0	0	250	0	0	100	0	0	—	—	—
Plant Pathology.												
Purchase of chemicals and appliances and treatment of plant diseases	615	10	0	673	19	8	58	9	8	—	—	—
Training of one student in Plant Pathology...	—	—	—	250	0	0	250	0	0	—	—	—
Marketing.												
Expenses in connection with the export of Agricultural produce	248	16	9	223	9	10	—	—	—	25	6	11
Rent	—	—	—	65	0	0	65	0	0	—	—	—
Extraordinary Expenditure.												
Purchase of a new truck	246	0	0	—	—	—	—	—	—	246	0	0
Purchase of a motor cycle	38	14	0	—	—	—	—	—	—	38	14	0
Extending and systematizing the Experimental Farm	497	14	1	800	0	0	302	5	11	—	—	—
Construction of a new manure platform and pit	59	5	7	—	—	—	—	—	—	59	5	7
Construction of poultry pens	545	15	0	145	0	6	—	—	—	400	14	6
Purchase of one electric syren	13	10	0	—	—	—	—	—	—	13	10	0
Purchase of a Centrifugal pump and 350 feet of piping	145	6	8	—	—	—	—	—	—	145	6	8
Purchase of incubators, brooders and other Poultry appliances for loan to breeders ...	89	15	4	99	10	5	9	15	1	—	—	—
Purchase of breeding stock for loan to farmers	264	0	8	—	—	—	—	—	—	264	0	8
Development of farm lands at Busket ...	977	12	9	595	2	1	—	—	—	382	10	8
Planting trees in cowyards, pig and poultry pens	77	10	0	—	—	—	—	—	—	77	10	0
Providing portable wooden pig houses ...	157	5	9	—	—	—	—	—	—	157	5	9
Remodelling of farm buildings	125	3	3	—	—	—	—	—	—	125	3	3
Furniture	115	17	5	10	7	6	—	—	—	105	9	11
Farm Laboratory Equipment	3	2	7	184	7	6	181	4	11	—	—	—
Purchase of Farm implements	63	5	8	—	—	—	—	—	—	63	5	8
Expenses in connection with measures to be adopted for improving the supply of irrigation water	2	2	0	—	—	—	—	—	—	2	2	0
Carried forward.	28,709	8	10	28,659	9	2	3,098	11	10	3,148	11	6

Table 2. Statement of actual Expenditure for 1936-37 as compared with the expenditure for 1937-38.—*cont.*

Head & subhead of Expenditure	1936-37			1937-38			Increase			Decrease		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
B. Other Charges—*cont.*												
Brought forward ...	28,709	8	1	28,959	9	2	3,398	11	10	3,148	11	6
Extraordinary Expenditure.												
Laying distributory mains & electricity installation in the Government Experimental Farm	193	19	1	—	—	—	—	—	—	193	19	1
Expenses of a delegate to represent Malta in the 6th World Poultry Congress at Leipzig	45	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	—	—	45	[illegible]	[illegible]
Expenses for the utilization of water for irrigation purposes	22	3	5	—	—	—	—	—	—	22	3	5
Purchase of a typewriter	—	—	—	18	8	5	18	8	5	—	—	—
Purchase of a motor car	—	—	—	173	4	4	173	4	4	—	—	—
Construction of an additional room and extension of shed at "Ta' Sammat" vine nursery	—	—	—	122	14	9	122	14	9	—	—	—
Construction of two zymothermic cells ...	—	—	—	78	19	8	78	19	8	—	—	—
Expenses in connection with a scheme for the immunization of goats	—	—	—	1,355	13	7	1,355	13	7	—	—	—
Expenses in connection with experimental work for the irrigation of Ghajn Tuffieha Garden	—	—	—	79	12	10	79	12	10	—	—	—
Total ...	28,970	12	1	30,988	2	9	5,127	5	5	3,409	14	9

TABLE 3.

Table showing the monthly and total rainfall (in inches) for the year 1937-38 as compared with 1936-37.

Town or village	Sept. 1937	Oct. 1937	Nov. 1937	Dec. 1937	Jan. 1938	Feb. 1938	March 1938	April 1938	May 1938	June 1938	Total Sept.-June 1937-38	Total Sept.-June 1936-37
	ins.	ins.	ins	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.
MALTA												
Agriculture—Head Office ...	1·69	2·12	2·08	5·28	4·99	5·78	2·05	1·36	0·48	...	25·83	19·79
Birkirkara	2·20	1·39	2·22	5·11	5·22	6·38	1·42	0·86	0·41	...	25·21	18·04
Birżebbuġa	0·90	1·68	1·23	7·70	5·60	5·2	2·25	1·10	0·55	...	26·73	14·96
Buskett Public Gardens ...	1·54	1·70	2·05	4·22	5·39	6·76	1·31	1·10	0·30	...	24·37	20·16
Cospicua	1·93	2·25	1·62	5·50	4·28	5·52	1·78	1·31	0·35	...	24·54	16·97
Dingli	1·22	1·76	2·34	4·94	4·23	6·14	1·46	1·59	0·49	...	24·17	19·94
Floriana	2·30	1·88	1·68	4·81	5·60	6·36	1·83	0·97	0·45	...	25·88	18·95
Għarghur	2·61	2·15	2·63	7·05	7·75	7·72	2·46	0·96	0·86	...	34·19	19·93
Għaxaq	1·45	1·47	1·36	6·05	4·64	5·93	1·87	1·27	0·43	...	24·47	15·97
Gudja	1·46	1·46	1·38	6·38	4·57	7·10	1·77	1·29	0·50	...	25·91	9·19
Hamrun	2·37	1·85	1·54	4·30	5·44	6·47	1·72	0·99	0·45	...	25·13	16·85
Lija	2·17	1·41	2·17	5·87	5·20	7·11	1·38	1·02	0·43	...	26·76	18·76
Luqa	2·34	1·71	1·43	5·32	5·82	6·61	1·80	1·40	0·43	...	26·86	16·88
Mellieħa	0·50	1·15	1·51	4·36	4·08	3·82	1·53	1·20	0·76	...	18·91	18·87
Mosta	2·17	1·07	2·19	6·61	5·93	7·86	2·18	1·09	0·46	...	29·56	20·86
Mqabba	1·70	1·57	1·76	5·03	6·17	8·20	1·67	1·31	0·20	...	27·61	17·65
Mdina	3·04	1·98	2·99	6·50	6·18	8·57	1·80	1·43	0·49	...	32·98	22·26
Msida	1·93	2·05	1·55	7·62	5·77	6·67	1·67	0·80	0·27	...	28·33	24·74
Naxxar	1·87	1·21	2·02	5·87	5·08	7·17	1·73	1·01	0·29	...	26·26	21·16
Qormi	1·57	1·68	4·91	5·11	5·81	0·97	0·95	3·29	0·31	...	24·60	17·11
Qrendi	3·29	1·45	1·23	5·23	6·67	8·09	1·60	1·35	0·29	...	29·20	20·07
Senglea	2·31	2·59	1·40	3·67	3·91	4·98	1·67	1·08	0·43	...	22·04	14·53
Siġġiewi	2·15	1·98	1·81	5·65	6·15	8·42	1·81	1·13	0·28	...	29·38	19·95
Sliema	1·31	1·54	1·99	5·20	5·67	7·06	2·44	1·07	0·57	...	26·85	19·04
San Antonio Gardens	1·81	1·46	2·10	5·83	5·17	6·58	1·33	1·02	0·40	...	25·70	18·15
St. Paul's Bay	1·33	1·15	1·93	3·86	2·98	4·17	1·59	0·77	0·25	...	18·03	17·12
Tarxien	2·54	2·10	1·64	5·46	5·01	5·62	1·90	1·09	0·46	...	25·82	16·25
Vittoriosa	3·05	2·13	1·66	5·61	4·67	5·50	1·69	1·58	0·46	...	26·35	16·55
Żabbar	2·01	2·95	1·21	7·22	5·93	5·81	2·65	1·27	0·44	...	29·49	20·60
Żebbuġ	2·95	1·67	1·84	5·57	5·61	8·53	1·41	1·41	0·37	...	29·36	20·64
Żejtun	1·13	1·24	1·33	5·84	5·05	4·78	2·15	1·10	0·53	...	23·25	16·84
Żurrieq	2·90	1·81	1·39	5·99	6·35	7·10	1·67	1·45	0·58	...	29·24	19·77
Mean	1·99	1·73	1·88	5·58	5·34	6·35	1·76	1·24	0·42	...	26·34	18·39
Corresponding mean last year ...	0·22	1·09	6·81	4·52	1·95	2·48	0·57	0·68	0·32	...	...	...
GOZO												
Għajnsielem	0·18	1·36	2·47	4·25	4·32	4·29	2·16	0·78	0·44	...	20·25	18·66
Għarb	0·94	0·57	1·37	4·42	3·65	3·22	1·75	0·78	0·37	...	17·07	13·65
Nadur	0·04	1·60	1·70	4·00	3·47	4·10	2·12	1·18	0·53	...	18·74	18·08
Qala	0·00	1·23	2·39	4·77	4·56	4·78	2·05	1·11	0·62	...	21·51	17·98
Sannat	0·84	0·78	1·61	3·87	3·15	3·70	1·15	0·56	0·33	...	15·99	18·26
Victoria	1·26	0·89	1·15	4·37	4·06	4·51	1·84	0·72	0·43	...	19·23	14·97
Xagħra	0·38	3·15	1·32	4·13	4·36	3·26	2·04	0·89	0·60	...	20·13	17·68
Xewkija	0·70	1·97	1·42	4·82	3·96	3·46	1·84	0·72	0·41	...	19·30	16·51
Żebbuġ	0·93	0·79	1·22	4·79	3·76	3·49	1·85	0·98	0·26	...	18·07	17·05
Kemmuna	0·00	0·79	0·86	2·60	1·84	2·14	1·42	0·68	0·31	...	10·64	15·73
Mean	0·52	1·31	1·55	4·10	3·71	3·69	1·82	0·84	0·43	...	18·09	16·85
Corresponding mean last year ...	0·09	0·60	5·37	5·69	1·99	1·78	0·37	0·79	0·22	..	...	...
Mean for Malta, Gozo and Kemmuna	1·64	1·63	1·80	5·25	5·19	5·72	1·78	1·14	0·43	...	24·37	18·02
Corresponding mean last year ...	0·19	0·98	6·47	4·85	1·96	2·31	0·52	0·68	0·30	...	...	...

TABLE 4.

Acreage under the various crops 1937-38.

	Locality	Nature of the crop and number of acres of land in each crop.														
		Wheat	Barley	Beans	Vetches	Potatoes	Onions	Cumin	Citrus fruit trees.	Vines	Other fruit trees	Vegetables	Forages	Pasture	Total No. of acres in crop	No. of acres of uncultivated land
Valletta Dist.	Valletta	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Floriana	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Hamrun & Marsa ...	40	23	12	8	25	3	6	2	1	9	16	106	2	253	26
	Msida & Pietà ...	42	9	1	10	27	—	3	2	—	3	1	29	1	128	3
	Sliema	13	1	—	1	8	—	—	1	—	2	—	18	1	45	2
	St. Julians	67	15	5	15	33	2	3	2	1	8	1	60	2	214	10
Total Valletta District ...		162	48	18	34	93	5	12	7	2	22	18	213	6	640	41
East District	Senglea	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Cospicua	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Vittoriosa	—	2	2	1	2	—	—	—	—	1	2	2	—	12	3
	Żabbar & Kalkara ...	101	191	135	86	161	96	41	3	5	24	181	267	23	1,314	49
	Żejtun	146	182	133	122	178	109	64	4	3	12	96	278	11	1,338	20
	Marsaxlokk	102	95	41	27	81	72	35	—	3	14	30	230	14	744	24
	Tarxien & Pawla ..	131	86	61	55	115	64	38	3	14	22	40	228	3	860	12
	Luqa	64	49	36	37	104	88	39	4	5	15	53	203	4	700	24
	Mqabba	96	46	7	7	66	8	16	2	8	40	—	136	8	440	18
	Qrendi	170	90	10	16	105	24	17	2	4	38	2	152	20	650	90
	Żurrieq & Safi ...	552	394	17	35	192	45	26	5	16	43	9	374	32	1.740	69
	Gudja & Kirkop ...	155	143	48	51	150	81	30	2	8	20	29	263	18	998	42
	Birżebbuġa	590	208	65	18	205	116	43	1	18	18	36	285	46	1,244	80
	Għaxaq	98	103	31	24	92	67	31	1	2	13	17	145	10	630	48
Total East District ...		1,805	1,539	586	479	1,451	770	380	27	86	260	495	2,563	189	10,680	479
Central District	Naxxar Central ...	424	146	12	71	198	7	15	3	6	30	18	315	20	1.2 5	400
	Birkirkara and Sta. Vennera	410	122	38	102	356	16	33	8	4	40	86	332	13	1,560	54
	Għargħur	217	80	9	40	85	5	19	1	5	28	25	172	22	708	240
	Mosta	126	26	5	23	106	3	5	10	12	16	1	108	19	460	75
	Lija & Balzan... ...	110	23	9	30	112	6	12	30	2	19	6	92	—	451	5
	Attard	246	61	16	54	174	23	22	17	10	8	21	217	2	871	24
	Żebbuġ...	268	101	68	42	236	49	69	12	27	43	167	275	6	1.363	21
	Qormi	235	87	74	64	227	36	53	10	4	44	150	248	14	1.246	18
Total Central District ...		2,036	646	231	426	1,494	145	228	91	70	228	474	1,759	96	7,924	837
West District	Mdina	417	12	30	58	86	20	14	1	51	17	111	269	10	1,096	6
	Rabat	856	88	34	250	346	100	19	6	160	40	355	586	20	2,920	343
	Dingli	273	32	26	93	102	36	4	2	52	25	55	152	23	875	210
	Siġġiewi	442	133	130	198	230	181	116	40	31	34	224	474	66	2,209	292
	Mġarr	760	276	39	186	257	38	42	1	69	30	40	382	98	2,218	172
	Mellieħa	659	80	120	377	229	19	—	2	75	54	206	427	43	2.232	216
	St. Paul's Bay ...	555	62	68	110	250	14	5	2	37	29	162	548	28	1.870	115
	Naxxar, West... ...	161	55	8	30	61	2	8	1	8	25	7	130	10	506	347
Total West District ...		4,123	688	515	1,302	1,552	410	208	55	483	254	1,160	2,908	298	14.016	1,701
Total Malta		8,126	2,971	1,350	2,241	4,590	1,330	828	180	641	764	2,147	7,503	589	33,260	3,058
Gozo	Victoria (Gran Fontana)	138	207	54	41	51	5	6	1	126	26	28	214	6	883	24
	Kirċem	171	264	57	54	29	2	4	1	96	20	25	188	18	969	37
	San Lawrenz	144	151	21	33	18	7	1	—	18	13	6	131	11	554	27
	Għarb & Għasri ...	229	262	38	61	66	10	7	—	60	17	21	193	16	980	106
	Żebbuġ...	175	275	112	60	35	—	—	2	171	57	10	431	12	1.340	25
	Xagħra...	146	192	93	57	56	1	—	6	299	42	26	165	32	1,115	38
	Nadur	108	181	77	73	23	—	—	4	414	60	30	135	45	1.150	56
	Qala	93	148	60	44	18	1	—	—	146	51	15	186	8	770	30
	Għajnsielem & Kemmuna	150	210	51	98	39	2	1	1	34	30	12	242	40	850	76
	Xewkija	62	63	30	35	30	15	16	—	24	9	—	76	45	405	80
	Sannat & Munxar ...	224	147	48	46	27	9	45	—	20	16	1	263	98	944	94
Total, Gozo...		1,640	2,100	601	542	392	52	80	15	1408	341	174	2.224	331	9.900	593
Grand total		9,766	5.071	1,951	2,783	4,982	1,382	908	195	2049	1,105	2.321	9,727	920	43,160	3,651

TABLE 5.

Estimated Quantities of Agricultural Produce—1937-38.

	Locality	Nature of produce and quantity of each											
		Wheat Quarters	Barley Quarters	Beans Quarters	Vetches-seed Quarters	Potatoes Tons	Onions Tons	Cumin-seed Cwts	Citrus fruits Dozen	Grapes Cwts.	Other fruits Cwts.	Vegetables Cwts.	Forages 'Soma' or load of 10 bundles
Valletta Dist.	Valletta	—	—	—	—	—	—	—	—	—	—	—	—
	Floriana	—	—	—	—	—	—	—	—	—	—	—	—
	Hamrun & Marsa	140	120	42	20	93	18	22	1,630	40	630	1,088	7,067
	Msida & Pietà	147	47	3	36	100	—	10	1,610	—	215	65	2,050
	Sliema	46	5	—	4	30	—	—	795	—	140	—	1,210
	St. Julians'	235	78	18	55	122	13	11	1,600	40	560	67	4,195
Total Valletta District		568	250	63	124	345	31	43	5,635	80	1,545	1,220	14,522
East District	Senglea	—	—	—	—	—	—	—	—	—	—	—	—
	Cospicua	—	—	—	—	—	—	—	—	—	—	—	—
	Vittoriosa	—	10	7	3	6	—	—	—	—	72	130	135
	Żabbar & Kalkara	353	1,012	473	210	628	618	164	2,445	211	1,728	12,308	19,206
	Żejtun	511	965	466	448	695	710	248	5,230	126	865	6,528	20,930
	Marsaxlokk	357	504	144	102	316	462	140	—	127	1,006	2,040	16,279
	Tarxien & Paola	459	456	215	201	450	416	152	2,450	422	1,584	2,720	16,409
	Luqa	324	260	126	135	406	572	156	3,255	215	1,080	3,604	14,380
	Mqabba	336	244	25	26	262	50	64	1,630	168	2,870	—	9,076
	Qrendi	535	477	37	60	410	154	67	1,615	169	2,698	135	10,673
	Żurrieq & Safi	1,932	2,088	60	154	754	292	101	4,070	420	3,010	614	26,104
	Gudja & Kirkop	543	758	168	188	585	526	120	1,620	210	1,400	1,972	18,524
	Birzebbuga	665	1,103	228	67	800	753	165	800	518	1,260	2,448	20,190
	Ghaxaq	343	546	102	93	360	435	123	815	84	910	1,156	10,224
Total East District		6,418	8,423	2,058	1,767	5,672	9,988	1,500	21,930	2,670	18,483	33,655	182,130
Central District	Naxxar Central	1,530	790	45	263	733	45	57	2,435	170	2,130	1,224	22,880
	Birkirkara and Santa Venneta	1,482	659	134	377	1,317	102	294	6,200	168	2,845	5,848	23,790
	Gharghur	791	432	32	148	315	31	72	795	127	1,988	1,700	12,410
	Mosta	468	145	18	85	394	19	19	8,150	253	1,146	66	7,650
	Lija & Balzan	403	124	33	111	412	38	46	24,450	84	1,368	408	6,800
	Attard	890	328	56	200	644	150	85	13,855	295	576	1,428	15,687
	Żebbuġ	965	546	250	155	873	446	266	9,780	854	3,010	11,356	18,138
	Qormi	846	471	269	237	840	343	203	8,165	169	3,085	10,200	16,645
Total Central District		7,375	3,495	837	1,576	5,528	1,174	1,042	73,850	2,120	16,138	32,230	124,000
West District	Mdina	1,660	65	108	220	370	130	54	810	2,110	1,224	7,548	18,260
	Rabat	3,404	475	330	925	1,488	640	73	4,885	5,940	2,880	24,140	41,765
	Dingli	1,072	173	91	348	439	226	15	1,615	1,980	1,800	3,740	11,275
	Siggiewi	1,738	720	455	757	990	1,165	250	32,600	1,180	2,448	15,232	33,950
	Mgarr	3,015	1,496	137	692	1,105	242	163	790	2,700	2,165	2,720	27,525
	Mellieha	2,616	162	420	1,395	946	114	—	1,600	2,955	3,890	14,008	34,360
	St. Paul's Bay	2,200	340	238	410	1,075	88	19	1,615	1,395	2,087	11,016	39,650
	Naxxar, West	624	297	28	114	262	13	30	815	330	1,790	476	9,305
Total West District		16,329	3,728	1,807	4,841	6,675	2,618	604	44,730	18,590	18,284	78,880	218,030
Total Malta		30,690	15,896	4,765	8,308	18,220	8,811	3,189	146,125	23,460	54,450	145,985	536,682
Gozo	Victoria (Gran Fontana)	522	949	122	154	188	31	23	800	7,155	1,872	1,820	14,045
	Kercem	644	1,217	135	202	107	12	16	805	5,500	1,420	1,625	12,742
	San Lawrenz	556	699	76	125	67	43	4	—	1,100	923	390	8,840
	Gharb & Ghasri	835	1,221	138	226	244	65	27	—	3,750	1,207	1,365	13,047
	Żebbuġ	677	1,262	409	323	120	—	—	1,620	10,745	4,045	650	29,181
	Xagħra	564	873	337	214	207	7	—	4,850	15,000	2,982	1,690	11,107
	Nadur	400	813	280	271	85	—	—	3,255	22,400	4,260	1,950	9,118
	Qala	348	682	216	167	65	6	—	—	8,410	3,621	980	12,534
	Ghajnsielem & Kemmuna	580	961	190	140	144	11	4	810	1,875	2,130	780	16,671
	Xewkija	223	294	108	132	112	94	62	—	1,125	639	—	5,092
	Sannat & Munxar	866	673	174	171	101	58	175	—	1,050	1,136	65	17,796
Total, Gozo		6,275	9,644	2,185	2,125	1,450	327	311	12,140	78,110	24,235	11,315	150,173
Grand total		36,965	25,540	6,950	10,433	19,670	9,138	3,500	158,265	101,570	78,685	157,300	686,855

TABLE 6.

Acreages and yields of the principal crops in 1938 as compared with the average acreages and yields during the preceding ten years.

Crop	Total Acreage 1938	Average acreage preceding ten years	Total Yield 1938	Yield per acre, 1938	Average yield per acre preceding ten years
Wheat	9,766	9,370	36,965 qrs.	3.8 qrs.	3.8 qrs.
Barley	5,071	5,804	25,540 qrs.	5.0 qrs.	5.1 qrs.
Beans	1,951	1,715	6,950 qrs.	3.6 qrs.	4.3 qrs.
Vetches...	2,783	2,504	10,433 qrs.	3.7 qrs.	*2.6 qrs.
Spring Potatoes	4,982	4,569	19,670 tons	4.0 tons	3.7 tons
Onions	1,382	1,194	9,138 tons	6.6 tons	6.9 tons
Cumin Seed	908	1,588	3,500 cwts.	3.8 cwts.	4.9 cwts.
Citrus Fruits	195	190	158,265 dozen	811.6 dozen	784.3 dozen
Grapes	†2.049	1,767	101,570 cwts.	58.0 cwts.	56.0 cwts.
Other Fruits	1,105	1,082	78,685 cwts.	71.2 cwts.	67.9 cwts.
Vegetables	2,321	2,219	157,300 cwts.	67.8 cwts.	80.2 cwts.
Forages (excluding vetches)	9,727	9,720	686,855 "some"	70.6 "some"	55.9 "some"

NOTES:—* Average yield for 1934, 1935, 1933 and 1937. Yields before 1934 not available in qrs: since then recorded as "some" (loads).

† Includes 299 acres of non-productive young plantings.

TABLE 7.

Estimated values of Crops grown in these Islands during 1936-37 and 1937-38.

	1936-1937								1937-1938							
				£	s.	d.		£	s.	d.				£	s.	d.		£	s.	d.
Wheat	40,811	qrs.	@	2	5	0	=	91,824	15	0	36,095	qrs.	@	1	16	8	=	67,769	3	4
Meslin or "Mischiato"	9953	,,	,,	1	15	0	=	17,417	15	0	8,508	,,	,,	1	6	8	=	11,424	0	0
Barley	18,562	,,	,,	1	3	4	=	21,655	13	4	16,972	,,	,,	1	0	0	=	10,972	0	0
Straw (Wheat and Meslin) ...	294,300	nets	,,		3	0	=	44,145	0	0	298,000	nets	,,		2	0	=	29,800	0	0
Straw (Barley)	262,100	"some"	,,		1	1	=	14,213	6	8	280,000	"some"	,,			9	=	10,500	0	0
Beans	8,526	qrs.	,,	2	0	0	=	17,052	0	0	6,950	qrs.	,,	1	16	8	=	12,741	13	4
Vetches	8,464	,,	,,	2	11	8	=	21,865	6	8	10,433	,,	,,	1	15	0	=	18,257	15	0
Potatoes (Winter)	8,176	tons	,,	4	5	4	=	34,884	15	4	7,320	tons	,,	4	10	0	=	35,136	0	0
Potatoes (Spring)	23,785	,,	,,	4	16	0	=	114,172	16	0	19,670	,,	,,	7	9	4	=	146,869	6	8
Potatoes (Summer)	1,732	,,	,,	0	14	6	=	11,647	14	0	1,100	,,	,,	6	8	0	=	7,040	0	0
Onions	7,831	,,	,,	1	18	5	=	15,072	1	0	9,138	,,	,,	3	16	10	=	35,105	3	0
Cumin-seed	4033	cwts.	,,	1	15	2	=	7,021	7	2	3,500	cwts.	,,	1	12	0	=	5,600	0	0
Citrus fruits	155,185	dozen	,,			6	=	3,879	12	6	158,265	dozen	,,			6	=	3,956	12	6
Grapes	62,305	cwts.			8	4	=	25,960	8	4	101,570	cwts.	,,		8	6	=	43,167	5	0
Other fruits	73,980	,,	,,		8	9	=	32,366	5	0	78,685	,,	,,		7	6	=	29,506	17	6
Cotton lint	11,060	lbs.	,,			$5\frac{10}{12}$	=	268	16	$4\frac{1}{2}$	10,100	lbs.	,,			6	=	260	0	0
Cotton seed	226	cwts.	,,		8	6	=	96	1	0	217	cwts.	,,		7	0	=	75	19	0
Vegetables	158,021	,,	,,		9	1	=	71,767	17	5	157,300	,,	,,		9	3	=	72,751	5	0
Tomatoes...	52,760	,,	,,		3	$6\frac{1}{2}$	=	9,312	18	4	50,280	,,	,,		1	10	=	4,609	0	0
Forages	448 338	"some"	,,		4	10	=	108,348	7	0	656,855	"some"	,,		3	0	=	103,028	5	0
Maize	541	qrs.	,,	1	4	0	=	649	4	0	595	qrs.	,,	1	1	8	=	733	16	8
Melons and Water Melons ...	38,814	cwts.	,,		6	0	=	11,644	4	0	15,740	cwts.	,,		5	4	=	12,197	6	8
Tobacco	153	,,	,,	3	4	0	=	489	12	0	173	,,	,,	3	10	4	=	608	7	8
								£675,825	16	$1\frac{1}{2}$								£667,109	16	4

TABLE 8.

Average prices of Agricultural Produce during 1936-37 and 1937-38.

	1936-37.				1937-38.				
	£	s.	d.		£	s.	d.		
Wheat	2	0	0	to	2	10	0	per quarter.	
Barley	1	1	8	,,	1	8	4	do.	
Meslin	1	10	0	,,	2	0	0	do.	
Beans	1	16	8	,,	2	5	0	do.	
Common Vetch	1	16	8	,,	2	3	4	do.	
Chickling Vetch	2	0	0	,,	2	5	0	do.	
Bitter Vetch	1	18	4	,,	2	3	4	do.	
Spring and Summer Potatoes	2	17	8	,,	8	10	8	per ton.	
Winter Potatoes	4	5	4	,,	4	16	0	do.	
Onions	1	8	6	,,	2	11	2	do.	
Cumin seed	1	5	8	,,	2	4	9	per cwt.	
Citrus Fruits			4	,,			9	per dozen.	
Grapes		6	5	,,		10	3	per cwt.	
Figs (fresh)		2	6	,,		5	5	do.	
Prickly Pears		2	3	,,		4	8	do.	
Other Fruits		7	6	,,		14	6	do.	
Vegetables		5	6	,,		14	0	do.	
Cotton			5	,,			6	per lb.	
Forages...		2	6	,,		6	0	per load of 10 bundles.	
Wheat-straw		2	6	,,		3	6	per net.	
Barley-straw		1	0	,,		1	3	per load of 10 bundles.	
Firewood, thick		7	0	,,		9	0	per pesata of 300 rt.	
Firewood, in bundles ...		2	0	,,		2	6	per load of 10 bundles.	
Goat's milk		1	9	,,		2	2	per gallon.	
Cow's milk		2	8	,,		2	10	do.	
Wine (common)		1	6	,,		2	3	do.	
Cheese			10½	,,		1	4	per lb.	
Cheese (fresh)			4	,,			6	do.	
Beef			10¼	,,		1	2½	do.	
Pork			10	,,		1	1½	do.	
Mutton			9¼	,,			10½	do.	
Lamb			9¼	,,			10½	do.	
Eggs			8	,,		2	0	per dozen.	
Poultry		1	6	,,		5	0	per head.	
Rabbits		1	6	,,		2	6	do.	

	1937-38.				
	£	s.	d.		
Wheat	1	13	4	to	2 0 0 per quarter.
Barley		18	4	,,	1 1 8 do.
Meslin	1	6	8	,,	1 10 0 do.
Beans	1	13	4	,,	2 0 0 do.
Common Vetch	1	10	0	,,	1 15 0 do.
Chickling Vetch	1	16	8	,,	2 0 0 do.
Bitter Vetch	1	10	0	,,	1 15 0 do.
Spring and Summer Potatoes	4	5	4	,,	10 13 4 per ton.
Winter Potatoes	4	5	4	,,	6 8 0 do.
Onions	2	11	2	,,	4 0 6 do.
Cumin seed	1	9	10	,,	1 12 0 per cwt.
Citrus Fruits			4	,,	10 per dozen.
Grapes		7	5	,,	10 8 per cwt.
Figs (fresh)		2	3	,,	5 0 do.
Prickly Pears		2	3	,,	4 6 do.
Other Fruits		6	0	,,	10 0 do.
Vegetables		7	0	,,	16 0 do.
Cotton			5	,,	6 per lb.
Forages...		2	6	,,	3 6 per load of 10 bundles.
Wheat-straw		1	8	,,	2 3 per net.
Barley-straw			7	,,	10 per load of 10 bundles.
Firewood, thick		7	0	,,	9 0 per pesata of 300 rt.
Firewood, in bundles ...		1	10	,,	2 6 per load of 10 bundles.
Goat's milk		2	2	,,	2 8 per gallon.
Cow's milk		2	8	,,	2 10 do.
Wine (common)		1	6	,,	2 4 do.
Cheese			10½	,,	1 4 per lb.
Cheese (fresh)			4	,,	6 do.
Beef			10¼	,,	1 3 do.
Pork			10	,,	1 2 do.
Mutton			9¼	,,	10½ do.
Lamb			9¼	,,	10½ do.
Eggs			8	,,	2 2 per dozen.
Poultry		1	6	,,	5 0 per head.
Rabbits		1	6	,,	1 6 do.

TABLE 9.

Police returns of Livestock on the 31st. December, 1937, as compared with the returns on the 31st. December, 1936.

Livestock	31st. December, 1937			31st. December, 1936		
	Malta	Gozo	Total	Malta	Gozo	Total
Cattle:—						
Maltese breed ...	873	716	1,589	960	608	1,568
Foreign breeds ...	2,023	442	2,465	1,909	346	2,255
Ovines: —						
Goats	26,579	7,262	33,841	25,848	7,859	33,707
Sheep	8,475	5,913	14,388	9,153	5,877	15,030
Pigs	4,711	1,588	6,299	4,451	1,156	5,607
Donkeys:—						
Maltese breed ...	79	32	111	75	29	104
Foreign breeds ...	2,316	1,073	3,389	2,397	1,019	3,416
Horses	2,292	364	2,656	2,575	322	2,897
Mules	2,094	580	2,674	2,344	486	2,830

TABLE 10. Return showing the Quantities and Value of Eggs imported into Malta during the five years ended 31st December, 1937.

Countries of origin	1933		1934		1935		1936		1937		Total Imports		Average Yearly Imports	
	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value
	Dozen	£	Dozen	£	Dozen	£	Dozen	£	Dozen	£	Dozen	£	Dozen	£
Egypt	357,266	8,035	411,960	9,396	474,190	11,167	759,138	17,676	494,587	12,648	2,497,135	58,922	499,427	11,784·4
Morocco	...	...	..	...	...	...	...	.	...	...	...	...	...	...
Syria	...	...	5,600	175	5,700	233	11,400	320	26,280	1,158	48,980	1,886	9,796	377·2
Italy	63,900	1,127	...	...	...	...	...	...	...	...	63,900	1,127	12,780	285·4
Libya	27,640	953	20,972	821	3,110	176	...	...	...	...	48,052	1,950	9,610·4	390
Belgium	...	...	...	...	...	...	3,600	162	...	...	3,600	162	600	32·4
Greece	...	...	...	...	...	...	...	...	...	...	..	...	...	...
Scala Nuova ..	...	...	...	...	...	...	.	..	...	...	...	...	...	...
Turkey	72,520	2,892	192,150	6,206	62,880	2,467	31,240	1,515	20,328	689	387,118	13,659	77,423·6	2,731·8
United Kingdom	42	21	26	28	...	..	8	4	...	...	76	53	15·2	10·6
Bulgaria	3,360	133	8,520	257	..	...	...	...	...	...	11,880	390	2,376	78
Spain	...	...	..	...			...	..	.	.	...	...	...	...
Albania	37,460	1,487	95,794	3,023	52,260	2,073	32,580	1,390	85,080	3,505	303,174	11,131	60,634·8	2,226·8
Yugo-Slavia ...	103,289	3,697	17,460	454	25,140	663	31,560	1,483	4,200	1 2	181,649	6,114	39,928	1,288·8
Denmark ..	.	.	1,500	87	4,800	20	...	...	..	..	6,300	289	1,260	57·8
Netherlands ...	...	...	6,000	302	..	..	...	...	...	...	6,000	302	1,200	60.4
Poland ...	..	..	6,300	380	..	..	...	..	...	...	6,300	380	1,260	76
Lithuania ...	..	.	.	...	300	12	...	...	...	...	300	12	60	2
Cyprus . ..	.		.	...	...	.	2,160	106	360	12	2.520	118	504	23·6
Total ..	659,762	18,645	766,282	20,825	628,710	16,716	881,786	22,656	630,835	18,254	3,567,375	97,126	713.475	19,425·2

N.B. The marking of imported eggs was started on the 15th August 1933, in terms of Act No. XXX of 1933.

TABLE 11.

Diagram showing relation between "Agricultural Exports" and "All other Exports", for the years 1930-1937.

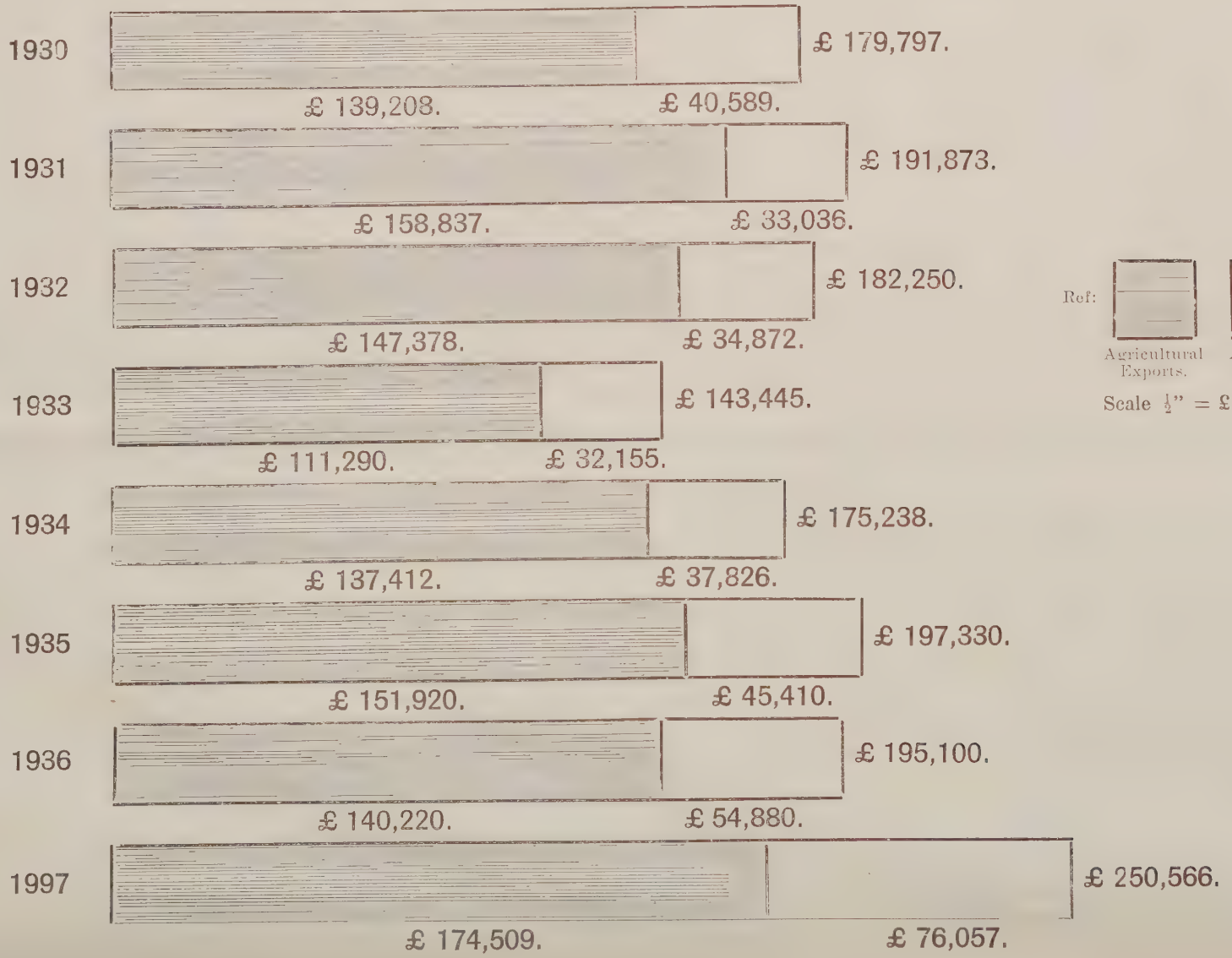

TABLE 12. Return showing Quantities and Values of Agricultural Exports during the years 1932-37.

Article	Country of Final Destination		1932		1933		1934		1935		1936		1937	
			Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value
				£		£		£		£		£		£
Animals living:—														
Sheep and Swine	Tunis	No.	...	...	3	4	...	...	...	...	...	...	...	...
Cheese	Tunis	Cwts.	1	3	4	13	11	16	6	49	...	...	...	...
	Italy	„	...	...	...	...	2	5	...	...	...	...	...	...
	Libya	„	...	...	...	...	2	6	...	...	...	...	...	...
	Total ...	... ...	1	3	4	13	15	27	6	49	...	...	...	...
Eggs	United Kingdom...	Doz.	3,300	135	100	5	...	..	...	...	...	...	...	...
	Italy	„	60	3	...	...	...	...	...	...	...	...	...	...
	H. M. Ship's Stores	„	...	...	...	...	...	...	...	...	600	42	...	...
	Total ...	... ...	3,360	138	100	5	...	...	...	...	600	42	...	...
Fruits (fresh or dried):—														
Oranges and Mandarines	United Kingdom...	Doz.	1,209	91	6,492	234	1,877	126	1,814	143	1,8 5	131	2,626	222
	France	„	...	...	...	...	...	...	...	...	12	1	...	...
	Tunis	„	...	...	...	...	600	24	...	...	...	...	...	...
	Germany	„	...	...	...	...	...	...	...	...	20	1	...	...
	Hungary	„	...	...	...	...	...	...	...	...	...	...	12	1
	Total ...	... ...	1,209	91	6,492	234	2,477	150	1,814	143	1,837	133	2,638	223
Grapes	United Kingdom...	Cwts	...	...	...	...	...	...	5	14	...	...	...	...
Melons	United Kingdom...	„	...	...	...	...	...	...	105	38	...	...	...	...
	Libya	„	...	...	...	...	...	...	34	10	...	...	...	...
	Total ...	... ...	...	...	...	...	...	...	139	48	...	...	...	...
Other fruits	Italy	Value	...	...	...	...	...	180	...	...	...	...	...	...
	Libya	„	...	...	...	...	...	51	...	...	...	...	...	13
	Tunis	„	...	...	...	...	...	111	...	...	...	34	...	...
	United Kingdom...	„	...	93	...	...	...	...	...	45	...	...	...	...
	Greece	„	...	...	...	...	...	...	...	66	...	...	...	...
	Turkey	„	...	...	...	...	...	...	...	128	...	...	...	...
	Egypt	„	...	...	...	...	...	...	...	...	...	74	...	...
	Palestine	„	...	...	...	...	...	..	...	...	...	17	...	..
	Total ...	... ...	...	93	..	...	...	342	...	239	...	125	...	13
Pulse:—														
Kidney Beans...	Belgium	Cwts	...	...	148	60	...	...	...	...	...	...	...	...
Tomato Sauce and extracts of tomatoes	Italy	„	...	...	...	...	...	...	148	148	...	...	...	...
	Tunis	„	...	...	...	...	292	280	...	...	...	...	...	...
	Brazil	„	...	...	...	...	...	...	...	...	...	...	...	...
	Spain	„	...	...	...	...	...	...	...	...	...	...	...	...
	Ceylon	„	..	...	...	...	...	...	...	...	...	...	...	...
	Cyprus	„	428	370	40	40	...	...	160	145	145	125	...	...
	Kenya	„	...	...	...	...	7	20	...	...	...	...	...	...
	Egypt	„	...	...	...	..	...	...	6	7	...	...	...	...
	Total ...	... ...	428	370	40	40	299	300	314	300	145	125	...	...

TABLE 12.- *cont.*

Return showing Quantities and Values of Agricultural Exports during the years 1932-37.

Article	Country of Final Destination		1932		1933		1934		1935		1936		1937	
			Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value
				£		£		£		£		£		£
Tomatoes (tinned)	United Kingdom...	Cwts.	...	...	...	...	...	...	307	212	...	...	...	...
Vegetables:—														
Garlic	Tunis	,,	18	9	87	39	...	...	...	...	...	..	...	...
	Libya	,,	...	...	...	...	20	3	...	...	...	...	...	...
	United Kingdom ...	,,	120	70	...	...	...	...	...	...	...	...	...	...
	Belgium	,,	10	5	...	...	...	...	...	...	...	...	...	...
	Total		148	84	87	39	20	3	...	...	...	...	...	...
Onions	United Kingdom...	Cwts.	12,498	3,064	2,510	414	1,526	212	1,130	295	19,710	4,508	41,689	10,062
	Austria	,,	...	...	...	...	...	...	...	...	...	...	...	...
	Belgium	,,	1,027	442	3,055	132	...	...	800	263	7,560	1,803	605	75
	Denmark	,,	...	...	...	...	...	...	...	...	...	...	...	...
	Germany	,,	...	...	...	...	195	28	...	...	...	...	...	...
	Italy	,,	8,267	2,018	..	...	400	45	...	...	...	...	...	...
	Libya	,,	130	27	867	162	2,290	307	325	57	146	56	...	...
	Netherlands ...	,,	42,084	7,846	13,672	1,027	16,981	1,882	1,134	326	9,266	2,368	2,226	547
	Norway	,,	841	186	452	88	1,860	302	2,544	897	7,098	2,104	2,850	860
	Sweden	,,	...	...	...	...	5,271	736	5,934	1,928	2,660	760	1,065	317
	Tunis	,,	3,447	872	3,281	537	170	20	246	30	...	...	...	...
	Ceylon	,,	...	...	...	...	416	83	...	...	...	...	...	...
	Palestine	,,	...	...	...	...	40	9	...	...	...	...	...	...
	Egypt	,,	...	...	...	...	60	10	...	...	...	...	...	...
	Morocco	,,	...	...	...	...	400	68	...	...	...	...	...	...
	Switzerland ...	,,	...	...	...	...	500	42	200	44	...	...	...	..
	Aden	,,	...	...	...	...	...	..	114	23	...	...	...	...
	Total		68,294	14,455	23,837	2,360	30,109	3,744	2,436	3,863	46,440	11,599	48,435	11,861
Potatoes	United Kingdom...	Tons.	1,448	14,701	648	6,842	1,457	12,052	1,496	18,700	1,637	16,714	5,528	56,855
	Belgium	,,	310	3,612	665	3,938	948	9,848	820	8,640	3,312	25,714	1,867	13,151
	Germany	,,	538	6,174	342	2,236	222	2,164	70	1,407	...	...	...	...
	Hungary	,,	...	...	...	...	...	...	...	...	...	...	...	...
	Italy	,,	296	3,581	169	1,666	204	2,436	168	3,175	...	..	...	...
	Netherlands ...	,,	6,619	67,731	7,140	58,604	8,797	73,944	6,294	73,209	5,474	49,762	5,672	40,492
	Switzerland ...	,,	61	645	54	442	...	...	...	...	...	...	...	...
	Tunis	,,	411	2,647	102	460	...	...	...	...	...	...	...	...
	Ceylon	,,	690	5,526	1,048	5,619	487	3,313	401	2,862	932	5,990	573	3,749
	Austria	,,	20	180	...	...	...	...	30	330	..	...	...	..
	Egypt	,,	...	...	...	...	30	206	...	...	...	...	...	...
	Greece	,,	...	...	...	.	...	...	...	...	.	...	...	...
	British India ...	,,	...	...	...	...	125	1,113	...	...	...	...	...	...
	Spain	,,	...	...	...	...	...	...	...	...	...	...	...	...
	Carried forward		10,393	104,797	10,168	79,357	12,270	105,076	9,279	108,323	11,355	98,180	13,640	114,247

TABLE 12.—*cont.*

Return showing Quantities and Values of Agricultural Exports during the years 1932-37.

Article	Country of Final Destination		1932		1933		1934		1935		1936		1937	
			Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value
	Brought forward...	... ...	10,393	£ 104,797	10,168	£ 79,357	12,270	£ 105,076	9,279	£ 108,323	11,355	£ 98,180	13,640	£ 114,247
Vegetables—cont.														
Potatoes (cont.)	France	Tons	32	257	...	...	1	7	...	...	...	...	...	...
	Sudan	,,	...	...	1	7	...	...	...	...	...	...	2	10
	Libya	,,	...	...	1	4	...	...	...	...	...	...	...	...
	Aden	,,	...	...	...	...	18	100	...	...	...	...	16	87
	Palestine	,,	...	...	...	...	9	41	...	...	...	...	1	7
	Morocco	,,	...	...	...	...	1	8	...	...	...	...	...	...
	Yugo Slavia ...	,,	...	...	...	...	11	119	...	...	...	...	...	...
	Other Ships' Stores	,,	...	...	...	...	3	19	...	...	...	...	...	...
	British West Indies	,,	...	...	...	...	...	...	...	...	...	...	35	370
	Gibraltar	,,	...	...	...	...	...	...	...	...	...	...	125	630
	Argentine Rep. ...	,,	...	...	...	...	...	...	...	...	...	...	126	1,259
	Total ...	... ...	10,425	105,054	10,170	79,368	12,313	105,370	9,279	108,323	11,355	98,180	13,945	116,610
Tomatoes	Italy	Value	...	...	...	8	...	...	...	...	...	...	...	...
Other vegetables	United Kingdom ...	Tons	...	...	...	4	...	2	...	...	...	5	...	...
	Tunis	,,	...	...	...	26	...	25	...	10	...	...	...	...
	Libya	,,	...	...	...	...	...	25	...	...	...	...	...	...
	Total ...	... ...	...	...	...	30	...	52	...	10	...	5	...	...
Bones and hoofs	United Kingdom ...	Cwts.	...	...	41	8	...	...	...	...	...	...	...	...
	Germany	,,	...	...	...	...	...	...	...	...	890	299	130	71
	Italy	,,	102	18	4,450	960	1,206	316	1,783	401	1,460	315	...	...
	Netherlands ...	,,	...	...	...	...	780	152	...	...	3,013	571	2,622	737
	France	,,	...	...	...	...	...	...	...	...	100	22	102	25
	Belgium	,,	...	...	...	...	...	...	...	...	...	...	1,385	473
	Total ...	... ...	102	18	4,491	968	1,986	468	1,783	401	5,403	1,207	4,239	1,306
Cotton (raw)	United Kingdom ...	Cwts.	...	...	149	349	196	490	269	658	...	...	43	47
	Italy	,,	...	...	314	687	...	...	...	...	...	...	205	550
	Germany	,,	...	...	34	20	...	...	...	...	...	...	...	...
	Total ...		...	...	497	1,056	196	490	269	658	...	...	248	597
Cumin seed	United Kingdom ...	Cwts.	140	182	100	229	100	226	450	944	192	322	428	719
	Trinidad	,,	...	...	...	...	40	50	117	283	...	...	...	...
	Algiers	,,	...	...	...	...	30	50	...	...	...	...	...	...
	Brazil	,,	...	...	...	...	737	1,766	351	765	179	380	...	...
	Chili	,,	502	739	90	125	800	1,661	857	1,952	169	376	1,335	2,695
	Egypt	,,	502	612	806	930	...	...	...	...	100	190	...	...
	Germany	,,	1,903	1,993	1,611	2,226	1,136	2,691	271	631	322	604	200	405
	Italy	,,	196	286	350	697	205	585	100	266	...	...	...	...
	Libya	,,	...	...	10	16	73	144	27	53	...	...	10	18
	Netherlands ...	,,	788	918	1,117	1,730	782	1,733	856	1,720	661	1,121	789	1,232
	Norway	,,	50	67	110	240	100	269	311	655	220	404	100	188
	Carried forward...	... ...	4,081	4,797	4,194	6,193	4,003	9,175	3,320	7,269	1,843	3,417	2,862	5,257

TABLE 12.—*cont.*

Return showing Quantities and Values of Agricultural Exports during the years 1932-37.

Article	Country of Final Destination		1932		1933		1934		1935		1936		1937	
			Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value
				£		£		£		£		£		£
Cumin seed—cont.	Brought forward...	... ...	4,081	4,797	4,194	6,193	4,003	9,175	3,320	7,269	1,843	3,467	2,862	5,257
	South America ...	Cwts.	...	...	...	...	...	...	188	410	...	...	...	...
	(country unspecified)	,,												
	Tunis	,,	25	26	121	198	82	183	240	424	84	154	2	5
	U.S. America ...	,,	...	...	255	461	366	1,040	...	...	195	395	...	...
	France	,,	1,353	1,328	362	500	260	444	1,069	2,054	775	1,376	740	1,037
	Sweden	,,	...	...	...	...	20	48	40	93	20	40	80	153
	Argentine Republic	,,	596	839	163	260	160	477	283	616	40	70	...	...
	Peru	,,	...	...	...	...	...	...	40	72	60	120	...	...
	Mexico	,,	...	...	...	...	...	...	...	...	...	...	..	...
	Roumania	,,	...	...	...	...	...	...	40	90	...	...	40	84
	Ceylon	,,	382	554	...	...	...	...	...	...	...	...	...	...
	Bolivia	,,	2	2		...	...	...	...	...	..	...	...	...
	Portugal	,,	100	141	...	...	...	...	...	...	...	...	...	...
	Spain	,,	100	110	102	100	...	...	...	...	...	...	...	...
	Belgium	,,	...	...	21	30	...	...	20	40	...	...	40	83
	Denmark	,,	...	...	10	15	...	...	...	...	...	...	...	...
	Equador	,,	...	...	...	...	113	300	...	...	400	600	575	1,018
	Australia	,,	...	...	...	...	...	...	20	44	...	...	...	...
	British-West Indies	,,	...	...	...	...	...	...	25	54	...	...	...	...
	Czecho-Slovakia ...	,,	...	...	...	...	...	...	28	92	...	...	...	...
	Venezuela	,,	...	...	...	...	...	...	20	44	...	...	...	...
	Columbia	,,	...	...	...	...	...	...	...	...	287	504	...	...
	Greece	,,	...	...	...	...	...	...	...	...	20	39	...	...
	Total ...	... ...	6,639	7,797	5,228	7,257	5,004	11,667	5,333	11,342	3,724	6,715	4,339	7,637
Cumin seed (siftings)	United Kingdom ...	Cwts.	...	...	...	...	...	...	...	...	25	21	...	...
Hides and Skins (raw or dried) ...	United Kingdom...	,,	56	90	18	103	43	72	131	259	204	411	1,281	3,275
	Belgium	,,	16	190	21	267	23	223	...	...	21	87	...	...
	France	,,	769	1,727	187	955	97	460	74	530	167	880	250	2,228
	Germany	,,	19	20	5	15	7	24	...	...	178	295	3	34
	Greece	,,	3,142	4,214	2,301	3,162	2,348	3,337	299	439	233	421	152	350
	Italy	,,	3,614	6,502	4,524	7,681	2,808	4,857	8,111	7,882	1,029	1,136	227	864
	U.S. America ...	,,	...	...	...	...	...	...	415	1,584	137	855	162	1,220
	Netherlands ...	,,	...	...	...	...	...	...	70	106	307	658	4,184	8,659
	Turkey	,,	391	501	230	427	240	363	2,769	4,458	2,869	5,726	...	...
	Syria	,,	23	34	...	...	...	...	...	...	...	...	...	...
	Libya	,,	...	...	558	800	18	180	186	262	...	...	196	465
	Tunis	,,	...	...	...	...	30	76	...	...	...	...	...	...
	Czecho-Slovakia...	,,	...	...	...	...	...	...	96	299	155	502	108	450
	Egypt	,,	...	...	...	...	...	...	66	100	...	...	...	...
	Hungary	,,	...	...	...	...	...	...	40	60	...	...	...	...
	Yugo-Slavia ...	,,	...	...	...	...	...	...	26	40	...	...	...	...
	Palestine	,,	...	...	...	...	...	...	...	...	1,992	3,958	4,309	10,558
	South America ...	,,	...	...	...	...	...	...	...	...	17	41	...	...
	Total ...	... ...	8,030	13,278	7,904	13,410	5,614	9,592	12,283	16,019	7,309	14,970	10,872	28,103

TABLE 12.—*cont.*

Return showing Quantities and Values of Agricultural Exports during the years 1932-37.

Articles	Country of Final Destination		1932		1933		1934		1935		1936		1937	
			Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value
				£		£		£		£		£		£
Tallow	Libya	Cwts.	...	...	...	...	...	...	...	...	...	...	2,000	2,940
	Italy	,,	2,716	3,369	2,294	2,338	3,945	3,652	1,421	1,712	338	465	...	...
	United Kingdom ...	,,	...	...	6	7	596	545	616	820	2,298	2,777	...	...
	Netherlands ...	,,	...	...	...	...	40	100	...	..	...	...	...	...
	Egypt	,,	...	...	...	...	...	...	...	...	312	310	...	...
	Turkey	,,	...	...	...	...	...	...	...	...	...	...	100	165
	Total ...	... ...	2,716	3,369	2,300	2,345	4,581	4,297	2,037	2,532	2,948	3,552	2,100	3,105
Tar	Egypt	Cwts.	...	...	...	...	...	...	...	...	...	...	...	...
	Tunis	,,	2,685	464	100	25	...	...	94	38	30	12	102	38
	Belgium	,,	524	58	426	42	...	...	...	...	...	...	...	...
	Italy	,,	...	...	20	5	...	...	...	...	...	...	...	...
	Total ...	... ...	3,209	522	546	72	...	...	94	38	30	12	102	38
Horns and hoofs	France	Cwts.	157	50	...	...	...	...	...	...	...	...	...	...
	Italy	,,	20	7	...	...	...	...	...	...	...	...	...	...
	Total ..	... ...	177	57	...	...	...	...	...	...	...	...	...	...
Squills	United Kingdom ...	Cwts.	...	...	20	20	195	114	167	163	262	232	122	107
Wool (raw)	United Kingdom....	Cwts.	...	...	...	...	...	...	616	1,090	...	...	...	7
Animals living:—														
Horses	Tunis	No.	...	...	1	20	...	...	...	...	1	50	...	...
	France	,,	...	...	...	...	...	...	...	...	...	...	...	...
	Libya	,,	...	...	...	...	...	...	...	...	...	...	9	80
	Total ...	... ...	...	...	1	20	...	...	...	...	1	50	9	80
Donkeys	Tunis	No.	3	17	...	...	...	...	...	...	...	...	...	...
	United Kingdom ...	,,	...	...	...	...	...	...	1	10	...	...	...	...
	Total ...	... ...	3	17	...	...	...	..	1	10	...	...	...	...
Goats	Cyprus	No.	...	...	...	...	...	...	...	...	...	...	...	...
	Albania	,,	...	...	...	...	...	40	...	...	96	480	...	...
	British India ...	,,	...	...	...	...	...	...	...	...	2	18	...	...
	Total ...	... ...	...	...	...	...	...	40	...	...	98	498	...	...
Mules	Tunis	No.	...	...	...	...	...	...	...	...	...	...	...	...
	France	,,	...	...	...	...	...	...	...	...	...	...	...	...
	Libya	,,	...	...	...	...	...	...	...	...	12	150	2	10
	Total ...	... ...	...	...	...	...	..	...	...	..	12	150	2	10
Unenumerated	Italy	No.	...	...	...	...	...	...	...	24	...	...	...	...

TABLE 12.—*cont.*

Return showing Quantities and Values of Agricultural Exports during the years 1932-37.

Articles	Country of Final Destination		1932		1933		1934		1935		1936		1937	
			Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value
				£		£		£		£		£		£
Foods for animals—Bran	United Kingdom ...	Cwts.	...	...	6,552	1,275	1,680	420	16,664	3,758	9,303	2,105	15,165	4,667
	Germany	,,	...	...	...	...	...	...	608	187	...	...	...	...
	Italy	,,	137	31	75	13	591	139	281	61	...	...	...	...
	Libya	,,	6,140	1,858	3,586	801	735	177	8,502	1,811	...	...	...	...
	Tunis	,,	338	85	...	...	...	...	...	...	20	6	...	...
	France	,,	...	...	3,156	820	...	...	...	...	...	...	...	...
	Egypt	,,	...	...	...	...	...	...	497	125	1,260	377	...	...
	Total ...	... ...	6,615	1,974	13,369	2,909	3,006	736	26,552	5,942	10,583	2,488	15,165	4,667
Grain—Barley	Italy	Cwts.	...	...	...	...	...	...	...	...	...	...	...	...
Pulse—Beans	Italy	,,	40	50	47	45	...	...	...	...	...	...	...	...
	Libya	,,	15	8	67	55	6	6	...	...	...	...	...	...
	Tunis	,,	...	...	...	...	...	...	...	...	...	...	...	...
	Total ...	... ...	55	58	114	100	6	6	...	...	...	...	...	...
Wine in Bottles—(Still)	United Kingdom ...	Galls.	...	...	200	41	20	14	5	3	230	90	103	382
	Greece	,,	...	...	21	18	...	...	...	...	...	...	...	...
	Turkey	,,	...	...	12	13	...	...	...	...	...	...	...	...
	Italy	,,	...	...	...	...	...	...	...	...	21	5	..	...
	H. M. Ship's Store	,,	...	...	...	...	...	...	...	...	14	3	...	...
	Total ...	... ...	...	...	233	72	20	14	5	3	265	98	103	382
Honey	United Kingdom ...	Cwts.	...	...	...	...	...	...	3	20	2	8	1	5
	Egypt	,,	...	...	...	...	...	...	228	235	...	...	...	...
	Libya	,,	...	...	...	...	...	...	68	151	...	...	...	...
	Tunis	,,	...	...	...	...	...	...	...	...	5	10	...	...
	Total ...	... ...	...	...	...	...	...	...	299	406	7	18	1	5

APPENDIX I.

Report by the Superintendent of the Experimental Farm and Agricultural Organizer for the year ending 31st October, 1938.

INTRODUCTION.

During the year, the new Adviser in Animal Husbandry, the Horticulturist and the Assistant Horticulturist who have completed their training abroad, have taken up their duties. In view of the increased number of livestock kept on the Experimental Farm, the tendency has been to concentrate on forage crops for consumption by stock. The demonstration work with field crops has been somewhat checked during the absence of the Horticulturist, but it is now hoped to reconcentrate on this section. Considerable progress has been made with livestock improvement, both on the Experimental Farm and in the country.

In view of our increased activities this year, the report deals with the work on the Farm and in the country under separate sections.

THE EXPERIMENTAL FARM.
(Ghammieri).

LIVESTOCK.

Cattle.

With the exception of the two deaths mentioned in the last report ,(Report of the Department of Agriculture, 1936-37, page 43), the cattle affected with Foot and Mouth disease in October 1937 made a good recovery although the changing of hoofs in some cases rendered the stock lame for a long period.

On the completion of the new cowshed the milch stock consisting of one Brown Swiss cow, 2 Brown Swiss heifers, 1 Brown Swiss X Maltese heifer, 1 Ayrshire cow and 4 Shorthorn heifers, recently imported from Great Britain, were put in their new quarters. The new dairy, equipped with a pasteurising plant for processing a 100 gallons of milk at a time, a brine cooler and bottling plant, will be ready in the new year.

The number of bulls kept on the farm varies with the demand in the country but normally a bull of each of the three pure breeds (Ayrshire, Shorthorn and Brown Swiss) is kept.

Pigs.

An exceptionally good year with pigs has been experienced. Very few deaths have occurred and several minor attacks of swine erysipelas have been immediately stopped by the curative treatment now adopted by the Department of Agriculture. Sows and gilts are farrowed indoors but when the youngsters are approximately one week of age, they are moved to the field pens until weaned at eight weeks. This method has entirely eliminated white scour and aenamia which gave us considerable trouble at one stage.

During the year it became apparent that the Middle White and Berkshire breeds were not proving suitable for local requirements, and these two breeds are no longer kept on the Experimenital Farm.

Pigs on the Experimental Farm on 31st October 1938.

Sows 14	Gilts 72	Boars 29	Sucklers 64	Fatteners 49

During the year, three auction sales of pregnant gilts and sows have been held—two at the Experimental Farm and one in Gozo. 86 head realised £503 an average of £5. 17. 0. These sales have been widely attended by farmers from all sections of the Island and the keen competition shows that farmers now appreciate the value of the pure breeds.

All pigs on the Experimental Farm have had preventative treatment for swine fever, erysipelas and plague. This has proved very effective. Since the introduction of the treatment, no major outbreaks of disease have occurred at the Farm, which is especially open to infection through the frequent visits of farmers — sometimes coming directly from infected premises. Several minor outbreaks have been immediately controlled by curative treatment.

Sheep.

The German East Friesian sheep imported in 1936 have adapted themselves to local conditions and a flock of 9 ewes and 5 gimmers are now kept on the Farm. The ewes gave a very good clip of wool, averaging 8 lb. per fleece, and an excellent average milk yield has been obtained, one ewe has given 8 Imperial pints in the day. A gimmer with her first lamb averaged 4 pints for a considerable period.

No disease has been experienced and the flock is kept outdoors except during very inclement weather. A portable folding system employing tarred hemp nets has been employed and this enables the sheep to utilise forage crops and weeds in any portion of the Farm.

Poultry.

During the past year, this section has been enlarged. The 8 double run pens mentioned in the last report and 5 newly constructed portable wooden rearing shelters are now being used. This has enabled a reduction to be made in the number of hens in each breeding pen and, together with the use of two males per pen (which are used on alternate fortnights) an endeavour has been made to increase fertility.

The Buff Plymouth Rocks had proved the least satisfactory of our imported breeds and they are no longer kept on the Farm. In May 1938, 20 pullets and 5 cockerels of the Australian Leghorn breed were imported from a leading breeder in Australia. They are reputed to be heavier than the English type and are being used to supplement our present stock.

The hatching season on the Farm extended from the end of December to the beginning of April and 3,580 eggs were hatched. The average fertility was 83%.

Maltese Blacks.	Rhode Island Reds.	White Leghorn.
89%	82%	78%

These figures are an improvement on last year and compare favourably with results obtained abroad.

With regard to chick mortality, the Maltese Black again had the best record, closely followed by the Rhode Island Reds. The White Leghorn chicks proved the most difficult to rear and their rearing is only advised by persons whose methods and premises are modern. Under ordinary local farm conditons, the Rhode Island Red and Maltese Black breeds are recommended.

During the season, 12,000 hatching eggs were sold at prices slightly above table egg prices. An auction sale of pure bred pullets and cockerels was held in Malta, and a further sale of cockerels was held in Gozo on the occasion of the Annual Livestock Show. Sets of 4 mature pullets and 1 cockerel were offered for sale at reasonable rates throughout the season — these met with a keen demand. In all 113 cockerels and 328 pullets were sold for breeding purposes. As usual all stock was vaccinated against Fowl Pox and Cholera, and preliminary testing with the rapid stained antigen method for the detection of B.W.D. has been conducted. The percentage of infection appears to be low and it is hoped to eliminate all reactors before the 1938-39 hatching season.

Turkeys.

With a view to encouraging the keeping of turkeys to meet the local seasonal demand, a turkey section has been established. In March 1938, 19 turkey hens and 3 stags of the American Mommoth Bronze breed were imported from a leading breeder in England. A limited number of eggs were hatched to establish the flock.

It was apparent this season that turkey rearing in summer demands more shade than is normally present under local conditions. It was found necessary to rear under pomegranate trees, until more shade can be obtained in the newly constructed turkey pens.

A limited number of stock birds are now being offered for sale and next season it is hoped to offer hatching eggs.

Donkeys and Horses.

During the past years, the breeding of donkeys and mules on the Island has greatly diminished — due to the development of mechanical transport.

Only two jennies and a young jack are now kept on the Farm. Two horses, purchased for the newly established Emigrants Training Centre are at present kept on the premises.

CROPS AND MANURES.

Storage of Manures.

The value of Farm yard manure in preserving and increasing the fertility of our calcareous soils is fully appreciated by local farmers. Unfortunately, under existing methods of storing and handling, much of its manurial value is lost.

Two methods of storing manure are practised on the Experimental Farm. One method employs a circular concrete platform with a liquid cesspit in the centre and a retaining wall on the outside. Liquid from the manure drains into the pit and is occasionally pumped back over the manure. Although this pit has no shelter, it would be preferable to have a shelter or to have it constructed under shady trees. The other method, which is rather more expensive, consists of a pair of zymothermic cells which are square concrete cells lined with perforated bricks — these allow the aeration of the manure. Fermentation is rapid and is completed in a month without the loss of ammonia gases. The resultant manure is excellent but rather watery — which is an objection for local farmers who usually carry the manure in sacks on their backs because of the lack of internal roads to their plots. Where suitable transportation is available, the manure thus obtained is of special value in this climate where the conservation of moisture in the soil is of paramount importance.

Fish Manure V. Farm Yard Manure.

A comparison of the manurial values of fish manure and farm yard manure was made with a tomato crop in 1935, and last season a demonstration trial was carried out with potatoes of the "Up-to-date" variety. The following shows the comparative results:

Manure per tumolo	Area of plot sq. ft.	Produce (qantar)	Produce p. tumolo (qantar)	Increase
Fish Manure 120 rotoli ...	6840	16·16	28·29	52 (rotoli)
F.Y. „ 11 viaggi (33 Ktrs)	6840	15·70	27·77	—

Although this trial was in the nature of a demonstration and no experimental research methods were involved, it is evident that the fish manure is a valuable fertiliser and its ease of application compared with the farm yard manure is worthy of note. Unfortunately, its price precludes its use on a large scale by local farmers.

Oats.

Oats as grain are excellent and safe feed for any class of livestock, and as a green forage crop they are preferable to barley since they retain their sappiness to a much later stage of maturity. As a crop, they are adopted to moist non-calcareous soils, hence their predominance in Scotland, which is noted for its humid climate and peaty soils. However, varieties of oats have been found which will give satisfactory yields under widely varying conditions such as are found in Australia.

Last year a small scale trial was made with 14 varieties supplied by the New England Expt. Station, N. S. Wales, and this year a similar trial was made with 5 of the most promising varieties. The results were as follows :—

Variety	Area	Weight (rotoli)		Production per tumolo (weight) rotoli	
		Seed	Straw	Seed	Straw
Algerian B49 w2122	1248	37	119	355·5	1153·7
County Common	1320	29	119	265·8	1090·8
Fulghum	1760	37	183	254·2	1258·1
Algerian	1760	32	213	220·0	1464·3
Bond	1040	16	140	176·6	1628·9

In view of the smallness of the plots (9 sq. ft.) last season, it was not expected that the results obtained would tally when tried on a larger scale under improved climatic conditions. Algerian B49, which was least productive of the five varieties in last year's trial, this year gave the best grain production — although its yield of straw was low. County Common, which gave the next yield of grain, had a lower yield of straw. The best straw yielder was Bond, which, however, had the lowest yield of grain. Fulghum and Algerian gave fairly satisfactory yields of both straw and grain. Further trials are indicated and will be conducted next season.

Onions.

Trials with imported varieties of onions have been disappointing, hence it was decided to continue selection of the local brown flat type onion. Accordingly, 7 tumoli of land were grown with plants from one selected seed of this type. While a visible improvement in the uniform shape of onions was apparent, many red fleshed onions were found. A further selection for shape and whiteness of flesh has been made and these will be planted to seed during the coming season. Selected onions were allowed to seed this season to provide seed for the following crop. It is felt that this work is of special value and much attention is being devoted to it.

Tomatoes.

A total of 69,000 seedlings of the following varieties were distributed in Malta and Gozo at a nominal price of one penny per 100 seedlings :—Best of All, Every Day, Perfection, San Marzano and Marglobe. In Gozo 16,100 more seedlings were distributed than in the previous year. The establishment of a new cannery in Victoria coupled with the discontinuances, for economic reasons, of the cultivation of cotton, accounted for the increased acreage under tomatoes in Gozo.

TRAINING OF PROSPECTIVE EMIGRANTS.

In the spring of 1938, a Centre for the training of prospective emigrants to Australia was established at the Experimental Farm and use is being made of the new Vocational School in this connection. The Centre is being run with the joint cooperation of the Departments of Agriculture, Education and Emigration. Students are given a course ranging from one to two months, according to the requirements of individuals, and are instructed in English, the use of Australian implements, general agriculture and in carpentry. So far, over 100 students have attended the Centre and progress is very satisfactory.

ORGANISED VISITS OF FARMERS TO THE EXPERIMENTAL FARM.

Farmers in Malta and Gozo are given every encouragement to visit the Experimental Farm and it is pleasing to find that more and more are visiting the Experimental Farm or the Office of Agriculture for guidance in their problems. As in former years, organised visits of farmers, whose transport expenses are paid by the Department, were made on Sundays and Feast Days. This year, for the first time, parties of school children from the Elementary Schools in agricultural districts were brought to the Farm. Their enthusiasm and interest was very noteworthy. In all, 15 parties,

comprising of 723 adults and 813 children, wrere shown round the Farm. It is gratifying to note that a large proportion of the farmers who are brought to the Farm on these organised visits eventually return to seek advice or information.

ESTABLISHMENT.

For the 1937-38 financial year the Farm vote in common with other votes was greatly decreased. This has meant that certain activities, notably that of extending the farm have been severely curtailed. Despite the increase in livestock, a drastic reduction in labour was unavoidable and the following comparative figures show the establishment for 1938 compared with the previous year:

Description	October 1938	October 1937
Men	24	38
Women	4	3
Boys	8	7

EXTENSION WORK IN THE COUNTRY.

Cattle Breeding.

During 1934-35, the Brown Swiss Breed, which is the dairy breed of Switzerland and most of Northern Italy and is widely kept in Germany, Russia, U. S. A. and the Argentine, was introduced to Malta in an endeavour to grade up the degenerate local cattle. The Brown Swiss breed is noted for its power of rapidly improving poor stock since, in addition to its excellent milk and beef qualities, it is highly resistant to disease and is capable of thriving on the forages such as are fed on local farms. Most of the Brown Swiss bulls had been located in Gozo, and in 1936-37 season some 400 services were performed there. So successful were the crosses that farmers were induced to sell them for slaughter because of their early maturing qualities. It was realised that several generations would be necessary to show a really spectacular increase in milk yield, and in addition the feeding must be greatly improved before high milk yields can be expected. However, in all cases, a considerable improvement in milk yield is apparent, and at the last Annual Livestock Show in Gozo the first two in the Milch cattle class were excellent specimen of Brown Swiss crosses — said to be yielding over four gallons of milk per day.

In order to consolidate the progress made, 5 further young Brown Swiss bulls were imported from Switzerland in 1938 and distributed to keepers in Gozo.

With a view to the introduction of a Cattle Breeding Ordinance on the lines of the successful Pig Breeding Ordinance, it was decided to purchase some additional bulls for Malta from available Colonial [illegible]. Since it is not possible to utilise these funds for purchase in a foreign country, it was regretted that further Brown Swiss bulls could not be purchased. However, it was decided to purchase 10 Dairy Shorthorn bulls — since this breed, like the Brown Swiss, is world renowned for its grading up properties. In addition, it has a good reputation in the neighbouring isle of Cyprus and also comes from a common stock with the Ayrshire — of which breed, several bulls are available for use in Malta. The Shorthorn bulls have now arrived and are being distributed to keepers in Malta to prevent undue mingling with the Brown Swiss, which are concentrated in Gozo. It must be emphasized that, while the bulls of both breeds shown excellent beef qualities, they are bred from cows that have given at least 500 gallons of milk in a lactation of not more than 365 days, and that, while the progeny may show an excellent improvement in conformation, an improved milk yield may also be expected. Occasional low yields in heifers may be due to too early service or to the poor milk properties of the dam, but even in these exceptional cases, an improvement will be noted in subsequent lactations. It is too much to expect a first cross heifer to exceed her fourth or fifth calf dam in milk yield since the milk yield usually progressively increases with each succeeding calf up to fifth or sixth. In the majority of cases, however, the heifer shows a considerable increase over the yield of her dam when a heifer. It is hoped that the Cattle Breeding Ordinance will become operative in 1938 and cattle breeders will cooperate with the Department in making it as successful as the Pig Breeding Ordinance.

Pig Breeding.

The Pig Breeding Ordinance, which was introduced in July 1937 and provided for the licensing of all service boars and prohibited the keeping of "scrub" boars, has proved very successful. About the same time, the system of loaning Government boars to farmers was discontinued and farmers were given the option of selecting boars of any pure breed. Within a very short period, almost the only demand was for Large White boars. Local farmers have found the Large White breed ideal for their purpose; the sows make excellent mothers, the youngsters mature as quickly as other breeds and in addition they give an excellent carcass at any weight. The last factor is of great importance because the local demand for pork requires pigs up to 100 rotoli (175 lbs) dead weight. The average D.W. of 18,454 pigs slaughtered at the Civil Abattoir during 1937 wac 157½ lbs. giving an 82% killing percentage. Recently the Saddleback breed has enjoyed a return to popularity, chiefly because it is very resistant to disease and possesses many of the good points of the Large White breed with which they make an excellent cross.

During the year, all licensed service boars and gilts purchased from the Experimental Farm were inoculated against swine erysipelas and fever, and as in the case of the stock on the Experimental Farm, excellent results were obtained. On very rare occasions does an inoculated animal acquire the specific disease and, if so, the attack is usually of a very mild nature.

For several years the importation of live pigs has been prohibited by Government but the ban was lifted for the first quarter of 1938 when permission for the importation of 300 pigs was obtained. The reason given was the high prevailing retail price of pork, but owing to the high price of pigs in neighbouring countries and the drop in price of the locally bred pigs, only 100 pigs were imported. Actually, during the period, some exportation took place.

With regard to future policy, it appears that fresh outlets are now required to absorb some of the pigs produced during the hot summer months when pork consumption it as its lowest. One method would be to establish a bacon factory which would be required to draw two-thirds of its supplies during these summer months. This would ensure an adequate supply of pork during the winter months when retail rates have a tendency to rise.

Sheep.

The German East Friesian rams are proving very popular in Gozo where 14 rams have been located during 1937-38. The cross bred lambs prove to be some 30% heavier than the local lambs at the same age and, now that the cross bred gimmers are commencing to lactate, satisfactory milk yields are being obtained. The pure bred and cross bred ewes have an udder which is compact and well muscled to the body — this is an important factor and makes for cleanliness. It is hoped that more farmers will come to realise that a pendulous udder in a cow, sheep or goat is not of a necessity a criterion of a high mily yield and that in many cases it denotes poor conformation and weak udder muscles. The East Friesian, which is reputed to be one of the best milch breeds in the world, appears to be very suitable for crossing with the local sheep and requests for rams from farmers in Malta are now being received.

Poultry.

It is to be regretted that, while an improvement in the quality of poultry kept is to be recorded, very little headway can be made in general management owing to the local system of keeping poultry in enclosed courtyards, often together with other stock. Rarely is poultry to be seen enjoying free range. The system of keeping poultry in

confined quarters naturally means the greater spread of disease and our effeorts are still devoted towards combating two prevalent poultry diseases — Fowl Pox and Cholera — by inoculation against the diseases. The following table shows the number and location of the birds treated :—

Return showing the number of Fowls vaccinated from 1st November, 1937, to 31st October, 1938.

Location	No. of fowls vaccinated for			Location	No. of fowls vaccinated for		
	Fowl Pox	Fowl Cholera	Total		Fowl Pox	Fowl Cholera	Total
MALTA.							
Ghaxaq	221	—	221	St. Paul's Bay ...	—	72	72
Ghaxaq	1566	2,053	3,619	Tarxien	98	54	152
Birkirkara	734	238	972	Żabbar	43	41	84
Balzan	67	—	67	Żebbuġ	65	79	144
Birżebbuġa	210	41	251	Żeitun	20	34	54
Kalkara	80	207	287				
Cospicua	87	—	87				
Floriana	49	-	49				
Gżira	25	—	25	GOZO.			
Hamrun	364	37	401	Għarb	170		170
Luqa	285	—	285	Qala	117	68	185
Marsa	97	19	113	Kerċem	26	420	446
Msida	58	81	139	Nadur	42		42
Mosta	1,450	708	2,158	Victoria	307	—	307
Naxxar ...	107	62	169	Xagħra	40	-	40
Pawla	134	84	218	Xewkija	88	6	94
Lieta	244	-	244	San Lawrenz	116	47	163
Siġġiewi	1,239	126	1,365				
Senglea	16	14	30	COMINO.	145	—	145
Sliema	587	145	732				
St. Andrews	242	—	242				
St. Julians	—	80	80	Total ...	9,140	4,711	13,851

A slight reduction in the number of preventative treatments is due to the Public Vaccinator being also engaged in the inoculation of swine against disease and therefore his services for vaccination of poultry were not always available.

That an improvement in the type and quality of local poultry is taking place was apparent to visitors to the National Fur and Feather Association Annual Show when the Farmers Section produced many birds equal to those in the Fancier's Section. His Excellency the Governor's Cup for Aggregate Points was, for the first time, won by an exhibitor in the Farmers' Section.

Every encouragement is being given to induce farmers to hatch earlier in the season since we observe the fertility of of hatching eggs drops rapidly with the approach of the hot weather. With this object in view, 120 eggs incubators and brooders were given on loan to approved poultry keepers. Four were loaned in Malta, five in Gozo and one in Comino. Farmers were supplied with hatching eggs for these incubators at a special reduction in price. The scheme worked satisfactorily although difficulty was experienced in some cases in getting the farmer or his wife to acquire sufficient skill in running the machine. Nevertheless, the results were most encouraging and it is hoped to greatly extend the scheme during the 1938-39 season.

This vear a scheme for the exchange of pure bred stock cockerels from the Experimental Farm with mongrel cockerels in the country was initiated. Members of the technical staff toured selected districts with a supply of pure bred cockerels which were exchanged on the spot for mongrel cockerels. It is too early to state the exact value of this scheme but it is certainly a way of getting the stock distributed with the least effort. The following shows the exchanges effected :

Exchange of Cockerels.

Districts	Breed			Total
	White Leghorn	Maltese Black	Rhode Island Red	
Mellieħa	4	7	—	11
Manikata	8	1	—	9
St. Paul's Bay	—	1	—	1
Mosta	1	1	—	2
Siġġiewi	2	8	8	18
Luqa	5	14	6	25
Żebbuġ	—	2	—	2
Gozo	—	—	1	1
Rabat	1	—	—	1
Total	21	34	15	70

Bee Keeping.

The keeping of bees is definitely on the increase as a result of the Government subsidy totalling £60 per annum for the past two years. In the 1938 season, 51 and 22 applications for subsidies were received compared with 38 and 13 applications in 1937 for Malta and Gozo respectively.

In the 1937 season, beekeepers received 1s. 11d. per box and 1s. per jar. In 1938 the increased number of applicants reduced the subsidy to 1s. 2d. per box and 7d. per jar. The Poultryman inspected 1,368 jars and 327 boxes during the 1938 season. An endeavour is being made to form an Association to further the interests of Beekeepers and much support appears to be forthcoming.

Propaganda Work.

In view of the illiteracy of the majority of our farmers, it is very difficult to carry out effective propaganda other than in the vernacular. In this connection, it is interesting to note that the Technical Officers of this Branch assisted the Committee of management of the National Fur and Feather Association when they used the Broadcast Relay Coy. Amplifier van to tour the principal villages on Sundays spreading propaganda for the Annual Show. Talks on poultry and rabbit diseases were given and, in some cases, several thousand farmers and others gathered to listen. The talks were alternated with gramophone music and interest was maintained. It would appear that a light van fitted with an amplifier system would be a useful asset to the Department.

Further propaganda was carried out at the principal Agricultural Shows. At the National Fur and Feather Show a stand showing poultry appliances and feeding stuffs and a model laying pen and brooder house complete with poultry was erected, while, at the Annual Buskett Show in June, a pen of the East Friesian milch sheep was exhibited. Advantage was taken of the Livestock Show in Gozo to arrange a parade of the Government owned bulls and rams on loan to farmers. This parade was very impressive and, since it included pure bred, cross bred and local type bred, its instructive value was great. An auction sale of pure bred breeding gilts and cockerels was also held at this Show.

During the year, many letters have appeared in the local press relative to the activities of this Branch. Constructive criticism is always welcome and an endeavour has been made to clarify any points which were not perfectly apparent.

A. Azzopardi,

Superintendent of Experimental Farm
and Agricultural Organiser.

APPENDIX II.

Report on Viticulture for the year 1937-38.

GENERAL SURVEY.

The rainfall during the wet season was sufficient for the needs of viticulture. The following Spring was characterized by high winds and sudden changes of temperature—one of these changes of temperature, taking place in the second half of April, when the vines had already started growth, has seriously prejudiced the success of the grafting of American vines, which, in certain exposed localities, could hardly reach 20-25%.

The damage occasioned by the wind went on for the whole period of blossoming, and the stout shoots, laden with blossoms, were laregly torn away from branches somewhat above the ground.

During the Spring also, a heavy attack of "Peronospora", in the Island of Malta, has produced a great damage, particularly in pergolas and vines growing along field walls.

The summer, however, which was relatively calm and mild, has favoured the regular growth and perfect maturity of the grapes, whose yield was abundant beyond all expectations.

Production.

The grape yield for the 1938 vintage, was estimated at 65,000 qantars, namely 50,000 qantars in Gozo and 15,0000 in Malta and Comino.

The cash value of this crop was estimated as follows:—

(a) for Gozo — 50,000 qantars at the average price of 12s. 6d. per quantar	£31,250
(b) for Malta and Comino — 15,000 qantars at the average price of 16s. per qantar	£12,000
Total value of crop	£43,250

As in the past years, the larger quantity of this year's crop was rendered into wine, the rest being consumed fresh as table grapes.

The sale of table grapes went on till the end of December, and during the whole season the produce was marketed in very satisfactory conditions. This is clear evidence that viticultural technique has now reached a high stage of development and is improving from year to year.

Planting of New Vineyards.

Encouraged by the easy disposal of the produce as well as by the handsome prices prevailing in past years, farmers have continued and intensified the planting of new vineyards.

It is estimated that during the winter season of the year 1937-38 no less than 380 tummoli of land, to wit, 100 tummoli in Malta and 280 in Gozo, have been placed under vineyard. The acreage prepared for the planting of new vineyards this year (1938-39) is calculated to reach much higher figures; indeed it is estimated that by the time of writing not less than 600 tummoli have been planted (200 in Malta and 400 in Gozo).

These new plantations ,carried out to perfection in Gozo and well enough in Malta, with selected stock (American rootlings) hold out good hopes of success, on account of which the production of grapes in these Islands, will reach serious figures in a few years.

MANAGEMENT OF AMERICAN VINE NURSERIES.

I. Production of nursery stock, 1937-38.

Nurseries	American Rootlings	Graftings	Fruit-tree Rootlings
Sammat	43,210	—	—
Buskett	39,300	1,148	—
Villa Rundle ...	79,900	—	—
Kirċem	73,400	—	60
Total	235,810	1,148	60

II. Disposal and Sale of Nursery Stock.

Transactions	American Rootlings	Graftings	Fruit-tree Rootlings
Sold in Gozo	145,200	—	60
Sold in Malta	53,280	625	—
Planted in Public Gardens	930	—	—
Planted in Villa Rundle for growing as mother-plants	727	—	—
Distributed for purposes of experiment	1,100	—	—
Replanted in nurseries	34,473	474	—
Destroyed owing to weak constitution	100	49	—
Total	235,810	1,148	60

III. Revenue during 1937-38.

a)	From sale of American rootlings	£247. 17. 0
b)	From sale of American graftings	3. 18. 2
c)	From sale of Fruit-tree rootlings...	2. 16. 8
d)	From sale of grapes	1. 17. 0
e)	From sale of diverse fruits (oranges, lemons, peaches, etc.)...	4. 19. 6
f)	From sale of tomatoes	4. 3. 0
g)	From sale of potatoes and melons	21. 13. 6½
h)	From sale of lucerne and sulla	0. 19. 10
i)	From sale of firewood	1. 13. 6
	Total Revenue	£285. 1. 5½

IV. Planting of Nursery Stock, 1937-38.

Nursery Stock	Ta Sammat Nursery	Buskett Nursery	Villa Rundle Nursery	Kirċem Nursery	Total
American cuttings	86,000	58,600	155,700	96,900	397,200
American rootlings	—	8,200	—	26,260	34,460
Grafting cuttings	4,100	—	—	—	4,100
American graftings	474	—	—	—	474

The organization of the production of nursery stock for the needs of local viticulture has, to our mind, with the partial renovation and selection of American mother-plants and with the introduction of the new varieties in 1935, reached a sufficient condition of development. Further improvement should consist in the selection of individual ceps, by continual renewal of such as show any anomalies or disease, and by proper attention to the rooting of the cuttings.

EXPERIMENTAL VINEYARDS.

The year 1938 represents the first cropping year of the Experimental Vineyards. Naturally the ceps which have fruited, are those grafted in March, 1937, those grafted September, 1937 having not yet been established well enough to bear any fruit.

The successful graftings performed in March, 1937, were spur-pruned to 2-4 eyes, according to their vegetative vigour, and this for the purpose of strengthening the ceps. On account of this pruning (formation pruning) heavy yields were not expected in 1938, especially from varieties of vines (as *Malvasia*) requiring a long pruning in order to fruit properly.

Nothing particular worthy of note has been observed concerning the American graft-bearers, neither as regards growth nor as regards yield, and the following report is limited to observations on the varieties of European vines grafted on the American stock :

A. White grape varieties.

1. Trebbiano.

a) Growth excellent; sprouts thick in Spring but somewhat fragile, subject to damage by winds in the months of April and May.

b) Flowering very abundant, protracted till July; this exceptional flowering is attributed to the short pruning, adopted in this the first year of production, as well as to the numerous twigs laden with blossoms, which were wrenched away by the wind.

c) Setting of fruit : regular.

d) Thickening and ripening of fruit : regular.

e) Productivity : abundant.

f) Quality of fruit : sound; bunches large, loose, winged and often bifid; berries small, with very fine skin, golden-yellow or roseate; pulp very juicy, with plain taste; must acid in suitable degree, and sufficiently rich in sugar.

g) Resistance to wind : weak.

h) Resistance to fungoid diseases : in the vineyards of Siġġiewi, St. Paul's Bay and Rabat, attacks of peronospora on the flowers have been noticed.

2. Malvasia.

a) Growth excellent.

b) Flowering very scarce. This variety requires a long pruning, which this year could not be adopted.

c) Setting of fruit : perfect.

d) Thickening and ripening of fruit : regular.

e) Productivity : this vine requiring a long pruning, this year's production cannot be taken into consideration for the purpose of determining its productivity.

f) Quality of fruit : sound; bunches large, winged, almost compact; berries small, skin rather fine, rusty green; pulp sufficiently juicy, with plain taste; must suitably acid and sufficiently rich in sugar.

g) Resistance to wind : fair.

h) Resistance to fungoid diseases : liable to oidium.

3. Common White Catarratto.

a) Growth : good.

b) Flowering : fair.

c) Setting of fruit : good.

d) Thickening and ripening : a great number of berries have turned into "shot". Ripening has taken place regularly.

e) Productivity : rather mediocre in this first year of production.

f) Quality of fruit : bunches medium or over medium, compact, winged or whole; berries medium or small, with fine skin, golden-yellow; pulp succose, with juice of a plain taste, rich in acidity and sugar.

g) Resistance to wind : good.

h) Resistance to fungoid diseases : no infection has been noted.

B. Varieties of Red Grapes.

1. Barbera.

a) Growth : good.

b) Flowering : abundant.

c) Setting of fruit : perfect.

d) Thickening and ripening : perfect.

e) Productivity : in this first year production has shown to be very abundant and superior to that of any other variety under experiment in any of the vineyards.

f) Quality of fruit : sound; bunches medium, compact, whole; berries black, over medium, almost round or oval; pulp juicy, slightly acid; must rich in acidity and sugar at complete maturity.

g) Resistance to wind : good.

h) Resistance to fungoid diseases : no infection of any kind was observed.

2. Cabernet Franc.

a) Growth : excellent.

b) Flowering : mediocre.

c) Setting of fruit : perfect.

d) Thickening of fruit : regular.

e) Productivity : the crop of this first year of production was scarce. This vine is considered to require a long pruning.

f) Quality of produce : sound; bunches small, rather loose, whole or winged; berries small, black, round; skin fine, very frosty; pulp juicy, with a slight herbaceous taste; must suitably acid and rich in sugar at complete maturity.

g) Resistance to wind : good.

h) Resistance to fungoid diseases : no infection noted this year.

3. Merlot.

a) Growth : good.

b) Flowering : fair.

c) Setting of fruit : regular.

d) Thickening and ripening of fruit : regular.

e) Productivity : rather scarce this year.

f) Quality of fruit : sound; bunches small or medium, rather loose; berries small round, black, frosty; skin fine; pulp sufficiently succose, with a light herbaceous taste; must suitably acid and rich in sugar at complete maturity.

g) Resistance to wind : good.

h) Resistance to fungoid diseases : no infection has been noted.

4. Sangiovese.

a) Growth : excellent.

b) Flowering : abundant.

c) Setting of fruit : perfect.

d) Thickening and ripening of fruit : regular.

e) Productivity : excellent, in this first year.

f) Quality of fruit : sound; bunches medium or rather large, compact, whole or winged; berries medium or over medium, black, frosty, almost round; skin fine, tannic; pulp soft, juicy, acidulate; must rich in acidity and in sugar at complete maturity.

g) Resistance to wind : very strong.

h) Resistance to fungous disease : appears to be very liable to peronospora.

The following tables show the production obtained from the different varieties of vinifera, on different American graft-bearers, in the several Experimental Vineyards. The quantities given for individual ceps represent the mean production per cep of the successful graftings of March 1937, while the production of the September (1937) graftings has not been taken into consideration.

EXPERIMENTAL VINEYARD No. 1

TA' HAMET—GOZO.

Variety	Graft-bearer	Production per cep Kgs.	Acidity °/oo	Sugar °/o	Maturity
Trebbiano	Teleki — F. 8	2,018	8·55	18·43	Not perfectly mature. Much fruit of second flowering.
	,, — M. 8	1,940			
	,, 5 bb Kober	1,436			
	Berl. x Rip. 420 A	1,500			
	,, 34 E M	0,800			
	,, 157-11	1,784			
Malvasia	Teleki — F. 8	620	7·12	22·45	Maturity regular.
	,, — M. 8	610			
	,, 5 bb Kober	315			
	Berl. x Rip. 420 A	294			
	,, 34 E.M	288			
	,, 157-11	121			
Catarratto	Teleki — F. 8	1,200	8·92	22·45	Not perfectly ripe.
	,, — M. 8	600			
	,, 5 bb Kober	540			
	Berl. x Rip. 420 A	1,306			
	,, 34 E.M	372			
	,, 157-11	533			
Barbera	Teleki — F. 8	2,568	9·00	19·92	Not yet ripe owing to abundant production.
	,, — M. 8	3,880			
	,, 5 bb Kober	2,252			
	Berl. x Rip. 420 A	2,438			
	,, 34 E.M	2,460			
	,, 157-11	2,444			
Cabernet F.	Teleki — F. 8	853	5·47	22·45	Slightly over-ripe.
	,, — M. 8	1,384			
	,, 5 bb Kober	382			
	Berl. x Rip. 420 A	624			
	,, 34 E M	600			
	,, 157-11	463			
Merlot	Teleki — F. 8	680	5·02	20·60	Just ripe.
	,, — M. 8	824			
	,, 5 bb Kober	680			
	Berl x Rip. 420 A	654			
	,, 34 E M.	1,054			
	,, 157-11	680			

EXPERIMENTAL VINEYARD No. 2
XEWKIJA—GOZO.

Variety	Graft-bearer	Production per cep Kgs.	Acidity °/oo	Sugar °/o	Maturity
Trebbiano	Teleki 8 M	2.366	5·40	19·00	Ripe, with much fruit of second flowering.
	„ 5 bb Kober	1.315			
	Berl. x Rip. 420 A	2,946			
	Chass. x Berl. 41 B	2,874			
Malvasia	Teleki 8 M	206	5·32	22·05	Maturity regular.
	„ 5 bb Kober	318			
	Berl. x Rip. 420 A	478			
	Chass. x Berl. 41 B	179			
Catarratto	Teleki 8 M	915	7·65	23·20	Not perfectly ripe.
	„ 5 bb Kober	572			
	Berl. x Rip. 420 A	986			
	Chass. x Berl. 41 B	676			
Barbera	Teleki 8 M	2,982	9·00	19·92	Not yet ripe.
	„ 5 bb Kober	1.914			
	Berl. x Rip. 420 A	2,382			
	Chass. x Berl. 41 B	1,942			
Cabernet F.	Teleki 8 M	339	5·47	22·45	Maturity regular.
	„ 5 bb Kober	356			
	Berl. x Rip. 420 A	584			
	Chass. x Berl. 4k B	197			
Sangiovese	Teleki 8 M	1.319	6·52	19·00	Not yet ripe.
	„ 5 bb Kober	1,291			
	Berl. x Rip. 420 A	1,446			
	Chass. x Berl. 41 B	1,155			

EXPERIMENTAL VINEYARD No 3
GHASRI—GOZO.

Variety	Graft-bearer	Production per cep Kgs.	Acidity °/oo	Sugar °/o	Maturity
Trebbiano	Teleki — F. 8	1.500	5·77	19·92	Ripe, with much fruit of second flowering.
	Berl. x Rip. 420 A	1.142			
	„ 34 E.M.	1,094			
	„ 157-11	960			
	Chass. x Berl. 41 B	2,000			
Malvasia	Teleki — F. 8	800	5·92	20·24	Maturity regular.
	Berl. x Rip. 420 A	1,768			
	„ 34 E. M	1.800			
	„ 177-11	842			
	Chass. x Berl. 41 B	1.230			
Catarratto	Teleki — F. 8	978	7·50	21·66	Not yet ripe.
	Berl. x Rip. 420 A	1,400			
	„ 34 E. M	582			
	„ 157-11	2,572			
	Chass. x Berl. 41 B	2,400			
Cabernet F.	Teleki — F. 8	746	4·87	19·93	Slightly over-ripe, land heavily charged with chlorine and arid.
	Berl. x Rip. 420 A	1,013			
	„ 34 E. M	918			
	„ 157-11	950			
	Chass. x Berl. 41 B	554			
Merlot	Teleki — F. 8	872	5·02	21·66	Slightly over-ripe.
	Berl. x Rip. 420 A	1,094			
	„ 34 E. M	832			
	„ 157-11	938			
	Chass. x Berl. 41 B	1,236			
Sangiovese	Teleki — F. 3	1.114	6·97	17·64	Not yet ripe.
	Berl. x Rip. 420 A	1,157			
	„ 34 E. M	1,964			
	„ 157-11	1,554			
	Chass. x Berl. 41 B	1,700			

EXPERIMENTAL VINEYARD No. 4
VICTORIA—GOZO.

Variety	Graft-bearer	Production per cep Kgs.	Acidity °/oo	Sugar °/o	Maturity
Trebbiano	Teleki — F. 8	563			
	„ 8 M	477			
	„ 5 bb Kober	350	3·75	20·24	Over-ripe.
	Berl. x Rip. 157-11	288			
	Berl. x Rup. 1103-I P	692			
Malvasia	Teleki — F. 8	173			
	„ 8 M	100			
	„ 5 bb Kober	70	6·30	19·92	Not yet perfectly ripe.
	Berl. x Rip. 151-11	68			
	Berl. x Rup. 1103-I.P	42			
Catarratto	Teleki — F. 8	190			
	„ 8 M	433			
	„ 5 bb Kober	283	7·57	19·00	Not yet ripe.
	Berl. x Rip. 157-11	192			
	Berl. x Rup. 1103-I.P	278			
Barbera	Teleki — F. 8	1,768			
	„ 8 M	2,525			
	„ 7 bb Kober	1,902	8·62	19·00	Not yet ripe.
	Berl. x Rip. 157-11	810			
	Berl. x Rup. 1103-I.P	1,877			
Cabernet F.	Teleki — F. 8	509			
	„ 8 M	582			
	„ 5 bb Kober	426	5·10	23 30	Slightly over-ripe.
	Berl. x Rip. 157-11	118			
	Berl. x Rup. 1103-I.P	282			
Merlot	Teleki — F. 8	536			
	„ 8 M	564			
	„ 5 bb Kober	440	5·62	21·30	Maturity regular.
	Berl. x Rip. 157-11	395			
	Berl. x Rup. 1103-I.P	302			

EXPERIMENTAL VINEYARD No. 5
SAN LAWRENZ—GOZO.

Variety	Graft-bearer	Production per cep Kgs.	Acidity °/oo	Sugar °/o	Maturity
Trebbiano	Teleki 5 bb Kober	1,612			
	Berl. x Rip. 420 A	2,054			
	„ 34 E.M	1,627	6·60	19 92	Nearly ripe, but containing fruit of the second flowering.
	„ 157-11	1 517			
	Chass. x Berl. 40 B	2.000			
Malvasia	Teleki 5 bb Kober	685			
	Berl. x Rip 420 A	2,850			
	„ 34 E.M	954	7·05	15·63	Unripe.
	„ 157-11	1,248			
	Chass. x Berl. 41 B	658			
Barbera	Teleki 5 bb Kober	1,475			
	Berl. x Rip. 420 A	2.080			
	„ 34 E.M	2,012	9·22	20·60	Unripe.
	„ 157-11	1,723			
	Chass. x Berl. 41 B	1.250			
Merlot	Teleki 5 bb Kober	339			
	Berl. z Rip. 420 A	776			
	„ 41 E.M	355	5·47	22·05	Maturity regular.
	„ 157-11	458			
	Chass. x Berl 41 B	582			
Sangiovese	Teleki 5 bb Kober	1.360			
	Berl. x Rip. 420 A	2,371			
	„ 34 E.M	1.306	7·35	17·25	Unripe.
	„ 127-11	1,517			
	Chass. x Berl. 51 B	2,142			

EXPERIMENTAL VINEYARD No. 7 *
ST. PAUL'S BAY—MALTA.

Variety	Graft-bearer	Production per cep Kgs.	Acidity °/oo	Sugar °/o	Maturity
Trebbiano	Teleki 8 M	1,705	6·15	20·24	Maturity regular but with much fruit from second flowering.
	Berl. x Rip. 420 A	6,100			
	„ 157-11	2,057			
	Berl. x Rup. 1103-IP	1,024			
	Rip. x Solonis 16-16	4,125			
Malvasia...	Teleki 8 M	544	4·80	23·30	Maturity regular.
	Berl. x Rip. 420 A	254			
	„ 157-11	144			
	Berl. x Rup 1103-IP	133			
	Rip. x Solonis 16-16	460			
Catarratto	Teleki 8 M	1,138	7·87	20·24	Not yet ripe.
	Berl. x Rip. 420 A.	1,415			
	„ 157-11	971			
	Berl. x Rup. 1103-IP	977			
	Rip. x Solonis 16-16	776			
Barbera	Teleki 8 M	2,880	7·50	22·45	Maturity regufar.
	Berl. x Rip. 420 A	5,800			
	„ 157-11	2,062			
	Berl x Rup 1103-IP	800			
	Rip. x Solonis 16-16	1,234			
Cabernet F.	Teleki 8 M	1,480	6·00	23·30	Maturity regular.
	Berl. x Rip. 420 A	2,168			
	„ 157-11	1,292			
	Berl. x Rup. 1103-IP	500			
	Rip. x Solonis 16-16	1,005			
Sangiovese	Teleki 8 M	1,530	6·37	22·05	Maturity regular.
	Berl. x Rip. 420 A	2,160			
	„ 157-11	1,253			
	Berl x Rup. 1103-IP	493			
	Rip. x Solonis 16-16	1,525			

The data regarding the production of Experimental Vineyard No. 6, of Rabat, Malta, are not available, owing to an erroneus interpretation of our instructions at the time of vintage.

EXPERIMENTAL VINEYARD No. 8
SIĠĠIEWI—MALTA.

Variety	Graft-bearer	Production per cep Kgs.	Acidity °/oo	Sugar °/o	Maturity
Trebbiano	Teleki 8 M	175	6·22	24·50	Over-ripe.
	„ 5 bb Kober	138			
	Berl x Rip. 420 A	137			
	„ 34 E.M	430			
Malvasia...	Teleki 1 M	110	7·05	24·20	Maturity regular.
	„ 5 bb Kober	183			
	Berl. x Rip. 420 A	121			
	„ 34 E.M	100			
Catarratto	Teleki 8 M	432	7·72	25·10	Maturity regular.
	„ 5 bb Kober	378			
	Berl. x Rip. 420 A	400			
	„ 34 E.M	533			
Cabernet F.	Teleki 8 M	333	5·55	25·50	Over-ripe.
	„ 5 bb Kober	335			
	Berl. x Rip. 420 A	269			
	„ 34 E.M	210			
Merlot	Teleki 8 M	155	5·77	25·94	Over-ripe.
	„ 5 bb Kober	181			
	Berl. x Rip. 420 A	152			
	„ 34 E.M	200			
Sangiovese	Teleki 8 M	557	6·52	25·10	Maturity regular
	„ 5 bb Kober	466			
	Berl. x Rip. 420 A	389			
	„ 34 E.M	216			

The results obtained in this first year of production of the Experimental Vineyards, for the purposes of propaganda and the diffusion of the varieties of wine-grapes in substitution to the varieties commonly cultivated here, have proved that grapes rich in acidity and in sugar, can be produced also in these Islands, by the cultivation of selected varieties of vines, which — as regards productivity — leave nothing to be desired. Much better results, and hence much more convincing, are expected in the near future when the experimental vineyards will have entered upon their full production.

The prices fetched by the grapes from the Experimental Vineyards, although it was the first vintage, surpassed by 3s. 6d. — 4s. 0d. per qantar the average prices reached for the common local grapes, intended for vinification. This difference in price shows that the wine-makers have started to appreciate the new varieties. Also on this account, better results are expected in the near future, that is when the new varieties will be better known by the wine-manufacturers and their good qualities (higher percentage of acidity, sugar and must) will improve as the vineyards will get older.

It would be very interesting, both for the purposes of propaganda and for experimental purposes, if we could dispose of the necessary wine-making apparatus in order to be able to vinificate separately each of the varieties cultivated.

Valletta, 28th February, 1939.

A. De Nardo,
Oenologist.

APPENDIX 3.

Report of the Superintendent of Public Gardens for the year 1937-38.

SAN'ANTON PUBLIC GARDEN.

Rainfall.

The total rainfall registered in this garden during the period from September 1937 to August 1938 was 25.88 inches, which is above the average. Rain fell on 63 days, and was distributed as follows:

1937		1938	
September	1.81 inches	January	5.17 inches
October	1.46 ,,	February	6.58 ,,
November	2.10 ,,	March	1.33 ,,
December	5.83 ,,	April	1.02 ,,
		May	.40 ,,
		August	.18 ,,

Shortage of Water Supply.

2. Great anxiety was experienced during the summer, as in the two previous years of water crisis, owing to the scant quantity of irrigation water (second class), supplied from San'Anton Pumping Station to this garden, which was much below the normal average, but every care was taken to minimize the effects of the deficiency.

Violent Storm.

3. One of the worst rain and wind storms prevailed during the night between Saturday the 19th and Sunday the 20th February, 1938. The storm raged so fiercely in this garden as to surpass the violent gale experienced 7 years ago — on the 21st/23rd February, 1931. Considerable damage was caused to the trees, shurbs and annual plants, and thousands of sparrows and other birds were killed by the exceptionally heavy rain. The garden rain gauge registered 5.25 inches of rain in 24 hours on Sunday 20th at 8 a.m.

Maintenance.

4. This garden has been maintained in its usual attractive condition. Every subject received constant attention, and all works were carried out to perfection. Cleaning up, removing decayed wood from trees and keeping down undergrowth consituted one of the principal items of work. 24 orange trees, 2 lemon trees 8 ornamental trees, 80 shurbs and 20 creepers have been added during the period from 1st April 1937, to 31st March, 1938.

Floral Display.

5. Spring-flowering annuals were, as usual, a source of great attraction during their flowering season. Spring annuals grown this year included: *Antirrhinum* (treated as an annual) Rust-Resistant crimson and rose-pink; *Arctotis aurantiaca; Bellis monstruosa* red and white varieties;*Calendula* "Frilled Beauty", "Orange King Improved" and "Radio"; *Cineraria grandiflora, polyantha (stellata)* and *radiata; Clarkia fl. pleno,* "Brilliant", "Dorothy", "Glorious", "Illumination" and "Orange King", *Gaillardia picta* "Chameleon", *G. grandiflora ruba* and "Burgandy"; *Godetia grandiflora* "Cherry red," and *G. Whitneyi azaleaflora* "Rembrant"; *Iberis umbellata lilacina,* "Queen of Italy", "Rose Cardinal", and *I. hybrida nana rosea; Lobelia* compacta "Blue Stone and "White Lady"; Larkspur "Bright Rose"; *Myosotis* (Forget-me-not) "Blue Ball"; *Nigella* "Miss Jekyll"; *Petunia* large-flowering single *alba*, deep cimson carmine, "Queen of the Market", and *P. violacea; Plox Drummondii* "Brilliant" and *cinnabarina; Schizanthus wisetonensis* improved strain; *Statice sinuata atrocoerulea, candida-*

dissima and *rosea superba;* Stock ten-week "Giant Perfection"; Sweet Peas Early-flowering and late waved in choice named varieties; *Verbena* Mammoth (*grandiflora*); *Viola tricolor* (pansies) Swiss Giants, Pure Yellow, Cassier's large-flowered Blotched and Giant Trimardeau; *Viscaria oculata coerulea;* Wallflower "Fire King", "Vulcan" and "Double Yellow".

The following summer-flowering annuals were cultivated: *Celosia pyramidalis plumosa* (Feathered cockscomb) crimson and yellow; Marigold "Collarette", "Harmony", Chrysanthemum-flowered incurved, and "Sunset Giants"; *Salvia splendens compacta* "Blaze of Fire"; *Zinnia* Dahlia-flowered "Scarlet Flame", "Buttercup", "Old Rose", "Giant Attraction", "Golden State", and "Illumination"; *Zinnia* Mammoth Giant of California "Purity", "Rose Queen", "Orange King", "Golden Queen", "Miss Wilmot" and "Cerise Queen". The usual number of beds had, however, to be reduced during the summer months owing to shortage of water.

Dahlias and Chrysanthemums.

6. In autumn there was again a fine display by the extensive collections of Dahlias and Chrysanthemums grown in this garden. With the recent introduction of the following new Korean Chrysanthemums and Imperial Hybrids, this Garden can now claim to be quite up-to-date as far as the Autumn Queen is concerned, viz: Korean Chrysanthemumums — "Mercury", "Mars", "Aphrodite", "Saturn", "Venus", "Nancy Capeland", "Hebe", "Indian Summer", "The Moor", "King Midas", "Romany" and "Thalia"; Imperial Hybrids — "Souv. de G. Marconi", "Gladiator", "Grazzia Deledda", "Imperial de 2000", "Floridiana", "Count G. Chaques", "Engineer F. Benetti", Permanent" and "Baroness Aliotti".

Rosery.

7. Perhaps no portion of the garden has attracted so much attention as the New Rosery. It has been gay with blooms throughout the year, not even excepting winter months.

Carnation Borders.

8. The new Perpetual-flowering Carnation Borders have been quite a success. All the plants survived the hot, dry summer months. The beds were hoed weekly and mulched. 1200 cuttings were taken from these plants, rooted and planted out in the two semi-circular plots on each side of the Diana pond.

Climbing Plants.

9. The numerous climbing plants with which this garden is furnished repeated the great display of the previous years, during their respective flowering season. The following were the most conspicuous:—

Antigonon leptopus (Sandwich Island Creeper). A conspicuous climber in flower from late Spring to late autumn. The deep rose coloured flowers are produced in handsome racenes which end in branching twining tendrels.

Bignonia grandiflora (=*Campsis chinensis*) The "Chinese Trumpet" Creeper, with 7-9 pair of pinnate, serrate leaves; flower trumpet shaped, scarlet, 2 inches across, with orange-yellow tube borne in terminal racenes in summer.

B. jasminoides (=*Pandorea jasminoides*) An evergreen twining plant with 5-9 pair of pinnate leaves, oblong, of a lustrous green. Blooms in summer and autumn in punicles rather few flowered but attractive, coralla is funnel-form campanulate with cremate lobes white suffused pink and rosy pink in the throat.

B. venusta (=*Pyrostegia venusta*) Tendril climber with striate stems glabrous usually trifoliate leaves, producing in January and February dense drooping clusters of tubular campanulate bright orange flowers.

Cryptostegia grandiflora (The Rubber Creeper) A summer-flowering plant with erect, woody stems and twining branches with milky juice. The leaves are short-stalked entire, half as wide as long glossy and somewhat leathery. The flowers funnel-shaped, five-petalled, white flushed pink, and reddish-purple to lilac at base of tube outside.

Lonicera Hildebrandiana (The Great Burnes Honeysuckle) The finest of all honeysuckles. Glabrous, evergreen, with ovate, abruptly pointed leaves, and large flowers 7 inches long, carried on stout peduncles, yellow to orange-red, in summer.

Passiflora violacea—Tall and glabrous, with leaves having three long narrow lobes of which the side ones are at right angles to the central one. The flowers borne during the greater part of the year, are lilac pink inside, the numerous filaments of corona being tipped and barred with violet and white.

Plumbago capensis — Semi-climbing, struggling, dense shrub with a profusion of azure or electric-blue flowers appearing as if umbelled, from Spring to autumn.

Polygonum Baldschuanicum — A vigorous plant becoming woody at base with cordate, acuminate leaves producing a profusion of a small white flowers in terminal panicles in summer and autumn. Under local conditions requires a north aspect.

Rhyncospermum jasminoides (=*Trachelospermum jasminoides*). A tall hardy, evergreen shrubby climber with glossy, darkish green foliage and waxy, star-shaped flowers which scent the air for a considerable distance around from April to June and again in September. Perhaps the most charming of all the climbers grown in this garden.

Solanum Seaforthianum — A handsome unarmed woody climber or trailer with long glabrous stems and trifoliate leaves bearing numerous star-shaped light purple or blue flowers borne in long drooping axillary panicles in spring and summer, followed by pretty red berries.

Solanum Wendlandii — The largest flowered of the climbing Solanums. A tall climber with few scattered prickles. Leaves various, the uppermost simple and long, the other trifoliate with terminal leaflet much the largest. A striking plant, blooming more or less throughout the summer and autumn. At its best in May and June. Flowers produced in large pale-lilac clusters. Three of the plants of this species grown in this garden have been trained as standard with very good effect.

Stephanotis floribunda — Though classed in English and continental catalogues as a stove plant, it grows in Malta in the open ground to a vigorous free-flowering plant. The leaves are opposite, entire, eliptic, and somewhat coriaceous. The flowers are large and showy with inflexed tip, white, waxy in consistency and very fragrant, and are borne in axillary umbel-like clusters. In full flower during June, but some blooms may usually be found from May to September.

Tecoma capensis — (=*Tecomaria capensis*). A half-climbing, nearly upright, dense, compact plant, with odd pinnate leaves that can be trained to shapely form. Flowers in terminal racenes orange-red to scarlet produced all the year round. At its best in September-October. Common, but so brilliant as to be worthy of a place in every garden, growing with a freedom which is very pleasing.

Wisteria chinensis — A large, deciduous, attractive twiner, the noblest of woody climbers. It has smooth pinnate leaves. The plant growing on the terrace of this garden produced a profusion of its violet blue pea-shaped flowers last spring.

Tropical Climbing Plants of Recent Introduction.

10. Other tropical plants recently imported, acclimatized in pots, and planted out in this garden are the following :—

Petrea volubilis — An elegant woody climber from Vera Cruz, Mexico, bearing bright, pure mauve-blue star-like flowers, in large wreath-like clusters.

Quisqualis indica — An attractive climber from Tropical Asia, luxuriant grower with oblong, almost glabrous light green leaves. Flowers white when first expanded but changing later on to pink and then to deep red colour, produced in summer and autumn. The flowers are like large Bouvardias, and are very fragrant.

Bougainvillea "Lady Hudson" — A new species with bracts of brilliant pink colour.

Bougainvillea "W. K. Harris" — Another new species with variegated leaves. This plant has not yet flowered.

With these two additions the number of species and varieties of Bougainvilleas grown in this garden is 24. This fine collection of Bougainvilleas freely growing and flowering throughout the year created a great deal of interest, especially to visitors from overseas, and frequent inquiries have been made for plants.

Flowering Trees and Shrubs.

11. The many flowering trees and shrubs which this garden is fortunate enough to possess, again attracted attention during their respective flowering season. The following trees were especially fine with profusion of gorgeous blooms, viz :

Bauhinia purpurea — (Camel's Foot Tree) Glabrous cordate leaves and rich purple flowers in spring.

Erythrina indica — (Indian Coral Tree) A deciduous tree with ovate-rhomboid leaves and orange-scarlet flowers in spring.

E. hastifolia — A recently introduced small tree with hastate leaves producing in autumn showy scarlet flowers in racenes.

Jacaranda mimosaefolia (=J. ovalifolia). The beautiful Brazilian tree with blue flowers and feathery leaves, symmetrical and elegant. It is deciduous. The flowers appear before the new foliage in May; they are borne in loose pyramidal panicles and last from three to four weeks, by which time all the new leaves have developed.

Machaerium Tipa — A leguminous tree native of southern Brazil, with feathery pinnate leaves and very pretty yellow flowers in June. This tropical tree has made quite rapid growth in this garden and has produced seed of good germinating power.

Magnolia grandiflora — An evergreen tree from Carolina U. S. A., with handsome, firm glossy foliage and large fragrant white flowers of leathery consistency appearing in June. Under local conditions requires a north aspect.

Parkinsonia aculeata (Jerusalem Thorn) — Thorny and glabrous with slender zigzag, pendulous branches, leathery foliage and handsome yellow flowers in spring.

Poinciana regia Boj., henceforth to be called *Delonix regia* Rafin, according to the decision of the authorities at Kew who have checked the scientific names of plants. Commonly called in English "Flame Tree", "Flamboyant" in French, and "Gul Mohur" in India. One of the most beautiful deciduous trees, with pinnate leaves and numerous pairs of leaflets very like the Jacaranda foliage. A young plant of this species was presented to this garden 17 years ago, by the present Superintendent, and planted out with a south aspect near the Aviary. Although it made wonderful growth each summer, as if it were growing in its native island — Madagascar and is now a large specimen tree, it has never produced its gorgeous scarlet flowers. According to botanical authorities in Egypt, the tree reaches in Lower Egypt its most northern limits as a flowering plant in the open, south European gardens are without its wonderful glow of colour. Two other plants, also raised from seed, grown in pots and acclimatised have been recently planted out in the garden and have done well.

Among the flowering shrubs the following have been quite a feature in the garden :—

Abutilon striatum var. Thompsonii. A shrub with pendant bell-shaped flowers in spring and autumn, and variegated leaves.

Caesalpinia Gillesi — (Bird of Paradise) An arborescent shrub with finely divided foliage producing in summer and autumn, terminal racenes of bright yellow flowers with protruding brilliant red stamens.

Cestrum Newelii — A recently introduced, quick growing evergreen shrub, flowering all through the winter and spring. Very attractive.

Datura arborea ("Trompe de Jugement") A big shrub with pubescent leaves producing large, drooping, trumpet-shaped white sweet-scented flowers nearly all the year round.

Echium fastuosum — A small sub-shrub with greyish-green leaves, hoary and ribbed, producing sky-blue flower spikes in spring.

Euphorbia pulcherrima (Poinsettia). A gorgeous plant with sparcely leaved stems terminating in highly coloured bracts of the most brilliant red colour from November to January. Two new forms with yellow and pink coloured bracts have been recently imported and made good growth.

Hibiscus rosa-sinensis — The Chinese Hibiscus with shiny, bright green leaves, and flowers solitary in the upper axils of the new growth, in single and double-flowered forms of bright red, and also rose and salmon.

H. schizopetalus — A shrub with slender drooping branches and pendulous red flowers with long projecting anthers. A plant of this species grafted standard-high on Hibiscus rosa-sinensis has been planted out in this garden.

Lagerstroemia indica — A deciduous shrub producing an abundance of soft-fringed and showy flowers during the summer.

Leonotis Leonurus (=Phlomis Leonurus) A tender sub-shrub with hairy stems, producing spikes of deep orange-coloured whorls from March to November.

Montanoa grandiflora — A large shrub with rough leaves, brown hairy beneath, bearing in December and January a profusion of daisy-like flowers.

Rondoletia speciosa — A showy shrub from Mexico, producing numerous corymbs of brilliant orange-red flowers from July to October.

Russelia juncea (Fountain Bush) — A tender, shrubby, continuous-flowering plant with rush-like, pendulous branches, small linear leaves becoming minute bracts on branches, and loose racenes of coral-red flowers.

Syringa vulgaris (The Common Lilac) — A deciducus shrub with ovate truncate or slightly cordate, accuminate leaves. Hardy in cold climates, difficult to grow in warm countries. Several lilac plants grown in the south end of this garden with a cool aspect facing north, have done well and regularly producing in spring showy panicles of purple and white sweet scented flowers.

Acacia-Mimosa.

12. The following species and hybrids of Acacia-Mimosa, grafted on Acacia floribunda in order to withstand the local calcareous soil, have been planted out in the open ground with success, viz: *Acacia Bayleana*, *A. Bermond*, *A. Bon accueil Calvino*, *A. Bon accueil hybrida*, *A. Bon accueil Joffre*, *A. Bon accuil S. Remo*, *A. Dealbata*, *A. Decurrens hybrida*, *A. Gaulois*, *A. Lambert*, *A. Motteana*, *A. Mirabilia*, *A. Sydney*, *A. Tournaire*.

Flowering Bulbs.

13. The various flowering bulbs cultivated this year, viz: Darwin Tulips, Daffodils, Gladioli, Irises, Ranunculus, Ixia, Sparaxis, etc. contributed, as in the previous year, to the fine floral display of this garden.

Glazed-Roofed Sheds.

14. A continual display of colour was maintained in the glazed-roofed sheds with fine collections of flowering plants grown in pots made up of choice varieties of Zonal Regal and Ivy Pelargoniums, Petunia, Jerbera, Nemesia, Schizanthus and Salpiglossis.

Plants under Glass.

15. The three glass-houses were again a source of interest to many visitors. With a great variety of tender flowering plants, ferns and other foliage plants a constant

show was to be seen. Among the flowering plants which attracted notice were : new choice varieties of *Primula sinensis*, *obconica* and *Malacoides*, *Anthurium*, *Ixora*, Medinilla, Gloxinia, Streptocarpus, Tuberous Begonia and Orchids.

Show Sheds.

16. The show sheds were kept gay with showy flowering plants backed up by fine specimens of palms and other foliage plants. Among the usual array of flowering plants were choice varieties of *Camelia*, *Azalea*, *Hydrangea*, *Clivia*, *Canna*, *Calceolaria*.

Lawns.

17. The same area as last year was sown with lawn grass seed. The keeping in order of the lawn plots formed quite a large item in the work of the garden. Beds of *Begonia semperflorens* and *B. gracilis* set on the lawns made a splendid show.

Ornamental Trees and Shrubs.

18. Ornamental trees and shrubs which constitute an outstanding feature of this garden have been attended to with the utmost care. This garden can boast of the largest and finest trees in the Island. Besides the century old trees of pyramidal and horizontal cypresses, oaks and olives, noteworthy for size and beauty, other trees planted within recent years are equally impressive. Two trees of Eucalyptus gomphocephala, recommended by Dr. St. John of Australia as the only species of this genus that grow well in the presence of lime, made tremendous growth, and yet they were planted out in this garden only 7 years ago.

Labelling.

19. Further work in the way of labelling was carried out. Several new labels of different patterns have been added, and defaced ones have been replaced.

Visitors.

20. This garden is fully patronized by the Public, especially on Sundays and Holidays. 70,853 tourists visited the garden during the period from the 1st April, 1937 to the 31st March 1938, besides a large number of passengers from P. & O. and other liners calling weekly at Malta.

Advice *and* Lectures.

21.—As usual the Superintendent furnished information personally and by correspondence to persons seeking advice in horticulture and arboriculture, 52 lecture have been delivered by the Inspector of Gardens to Assistant Gardeners and Apprentices during the period from the 1/4/37 to 31/3/38, on the following subjects :

1) The anatomical structure of the leaves.
2) The importance of hoeing and of weeding.
3) The tools needed for a garden.
4) The damage caused by the fruit fly (*Ceratitis capitata*) and the way that it can be checked.
5) The development of the Nitrogen fixing bacteria, on the legumes.
6) The work of the Novius and its propagation.
7) The importance of rotation.
8) The cultivation of the *Agaricus campestris* (Mushroom).
9) The damage caused to citrus trees etc. by the scale insect, its control and extermination.
10) The proper way and the right time of pruning, both deciduous and evergreen trees.

Proceeds.

22. The number of oranges, mandarines and lemons obtained from San'Anton Public Gardens was 6100 dozen which were sold by contract for £150. 6. 9. Other proceeds from the sale of fruits, plants, flower seeds and firewood amounted to £49. 5. 8, making a total of £199. 12. 5. The total proceeds last year amounted to £345. 7. 0.

Supply of Cut Flowers to Hospitals.

23. A regular supply of Cut Flowers, three times a week, was made to Hospitals, free of charge, throughout the year from this garden.

San'Anton & Verdala Private Gardens.

24. These beautiful gardens were kept gay with flowers throughout the year, and further improvements have been made. The following trees and shrubs have been planted :

San'Anton Private Gardens — Shrubs added : *6 Pittosporum Tobira, 2 Lippia citriodora, 4 Lantana camara, 12 Senecio petasitis, 30 Echium fastuosum, 2 Bougainvillea "Mrs. Butt", 1b. lateritia, 2 Hibicus rosa-sinensis.*

Verdala Private Gardens — Trees and Shrubs added : *12 Pinus halepensis, 12 Datura aroborea, 1 Euphorbia (Poinsettia) pulcherrima, 1 Erythrina Cristagalli, 5 Cestrum Newelii, 5 Echium fastuosum, 4 Hibiscus rosa-sinensis, 6 Buddleia americana, 24 Veronica andersoni, 16 Lantana camara, 16 Heliotropium peruvianum, 18 Jasminum primulinum, 54 Lavandula multifida.*

Trees replaced :— *16 Pinus halepensis, 14 Cypressus sempervirens var. pyramidalis.*

Other Public Gardens.

25. The Public Gardens and open spaces at Valletta, Floriana and other parts of the Island, viz : The Lower Barracca, The Upper Barracca, Hastings and St. Michael's, The Palace Yard, Piazza Celsi, Rundle, Kalkara, Miratore, Maglio, Argotti, Sa Maison, Senglea Point, Blata l-Bajda, Luqa Briffa—Żejtun, Vittoriosa Fosse, Gżira-Sliema, Hamrun Station, Birkirkara Station, Museum Station, Joseph Howard—Rabat received constant attention. The Valletta and Floriana Gardens presented a handsome sight when the spring-flowering annuals were in full bloom in April and May. Summer-flowering annuals supplied a wealth of colour during the summer months.

26. On the 1st April, 1938, the part of the Argotti Gardens used as a Public Garden, was transferred to the University Department, as it was before 1924.

Trees and Shrubs Planted.

27. The following trees and shrubs have been planted in the undermentioned Public Gerdens, during the period from the 1st April, 1937, to the 31st March, 1938 :

Locality	Trees	Shrubs
The Lower Barracca Garden	2 Phoenix dactylifera	1 Nerium Oleander, bush trained
		1 Lantana camara
		8 Laurus nobilis, bush trained
		11 Pittosporum Tobira
Upper Barracca Garden ...	1 Chamaerops excelsa	1 Nerium Oleander, bush trained
	1 Ficus rubiginosa	2 Duranta Plumieri
	2 Eucalyptus gomphocephala	10 Pittosporum Tobira
		8 Asparagus Sprengeri
		1 Hibiscus syriacus
		2 Tecoma Stans
		4 Leonotis Leonurus
		16 Myoporum serratum
		4 Acacia saligna

Locality	Trees	Shrubs
Hastings Garden	1 Washingtonia filifera	16 Euphorbia (Poinsettia) pulcherrima
	2 Phoenix canariensis	6 Euonymus japonicus
	4 Cercis Siliquastrum	8 Genista monosperma
		10 Pittosporum Tobira
		18 Nerium Oleander, bush trained
		2 Leonotis Leonurus
		1 Hibiscus rosa-sinensis
		4 Tamarix hispida aestivalis
Valletta Palace Yard ...	1 Laurus nobilis	2 Hibiscus rosa-sinensis
	1 Nerium Oleander, standard trained	2 Lantana camara
		6 Asparagus Sprengeri
Pundle Garden	5 Ficus nitida	2 Pittosporum Tobira
	1 Acacia Cyanophylla	
Kalkara Garden	3 Sophora japonica	8 Nerium Oleander, bush trained
	2 Nerium Oleander, standard trained	1 Pittosporum Tobira
	24 Ficus nitida	9 Tamarix hispida aestivalis
		1 Euonymus japonica
		1 Lantana hyb. chrome yellow
		12 Lantana camara
Mag'io Garden—		
1st section	3 Acacia saligna	6 Buddleia americana
	1 Casuarina stricta	
2nd section	2 Jacaranda mimosaefolia	2 Pittosporum Tobira
		4 Duranta Plumieri
Argotti Garden		2 Tecoma Stans
		2 Hibiscus syriacus
		1 Datura Plumieri
		2 Euphorbia (Poinsettia) pulcherrima
		12 Pittosporum Tobira
Piazza Miratore Garden ...	8 Ficus nitida, standard trained	1 Pittosporum Tobira
		2 Hibiscus rosa-sinensis
		8 Hibiscus syriacus
		6 Nerium Oleander, bush trained
		1 Eleagnus angustifolius
Blata l-Bajda (Merryweather Garden)... ...	1 Washingtonia filifera	6 Nerium Oleander, bush trained
Gżira Garden		60 Lantana camara
Hamrun Station Garden ...	2 Thuya orietalis	6 Pittosporum Tobira
		2 Euonymus japonicus
		50 Myoporum serratum
Senglea Point Garden ...	1 Phoenix dactylifera	
	1 Nerium Oleander, standard trained	
Balzan Station	1 Phoenix canariensis	
	1 Ceratonia Siliqua	
Joseph Howard Garden ...	2 Nerium Oleander, standard trained	70 Myoporum serratum
Vittoriosa Fosse	4 Pinus halepensis	2 Hippophae rhamnoides
	6 Schinus Terebinthifolius	4 Euphorbia (Poinsettia) pulcherrima
	8 Cercis Siliquastrum	2 Sciadophyllum pulchrum
	2 Quercus Ilex	3 Tamarix hispida aestivalis
	24 Phoenix canariensis	5 Adhatoda Vasica
	2 Ulmus campestris	14 Nerium Oleander, bush trained
	4 Jacaranda mimosaefolia	10 Pittosporum Tobira
	6 Casuarina stricta	
	3 Laurus nobilis	
	7 Sophora japonica	
	4 Acacia saligna	
	4 Celtis australis	
	6 Ficus nitida	
	2 Ligustrum japonicus	
	2 Populus alba	
	2 Morus alba pendula	
	3 Acacia eburnia	

28. Several Public Gardens were used on a number of occasions for holding shows, fairs and other entertainments.

PUBLIC PLANTATIONS, MALTA.

Increase of Trees.

29. The number of trees along roads and open spaces has considerably increased during the last two decades, new plantations being added every year. 318 trees have been added during the year under review.

New Plantations.

30. The following is a detailed list of new plantation during the period from 1/4/37 to 31/3/38 :—

Hamrun, Sda. Reale, Via San Giuseppe ...	16	Ficus nitida
Naxxar, San Pawl Tat-Targa	18	Pinus halepensis
Luqa Road	39	Pinus halepensis
Salita Casal Pawla	44	Nerium Oleander
Manoel Hospital Road	22	Pinus halepensis
Manoel Hospital Road	21	Nerium Oleander
Manoel Hospital Road	9	Phoenix canariensis
Manoel Hospital Road	6	Schinus Terebinthifolia
Horn Works, Floriana Ditch	18	Myoporum (standards)
Sa Maison Glacis	125	Pinus halepensis

Trees at "Ta' Braxia" Glacis.

31. The hundreds of pine and cypress trees planted 3 years ago, at "Ta' Braxia" Glacis are now well established, and in a flourishing condition.

32. On the undermentioned dates, Public Plantations suffered from the effects of stormy weather when a total of 144 trees and 494 props were broken and 667 trees damaged, viz :

Date	No. of trees broken	No. of Props broken	No. of trees damaged
21st October, 1937	3	20	17
19th-21st November, 1937	57	112	84
26th November, 1937	6	48	48
4th January, 1938	3	32	29
31st January, 1938	8	40	33
19th-20th February, 1938	67	242	456
Totals ...	144	494	667

Among the broken and badly damaged trees were 60 Ficus nitida (lucida). This species makes quick growth during the summer, and differs widely in the shape of its top, and equally so in the character of the bole. The safety or otherwise of the tree during gales, depends much on the form of these parts, and in order to keep the tree well balanced, it requires to be severely trimmed before stormy weather sets in. The trees in the Public Plantations suffered further damage during the year, caused by motor trucks, buses, touring cars and other vehicles. 74 trees and 95 props were broken and 18 trees badly damaged.

General Work.

33. Pruning, tying, watering, hoeing, replacing broken and worn-out props, replacing broken and badly damaged trees claimed the attention of the staff of the Public Gardens throughout the year. 590 broken and badly damaged trees have been replaced.

Shirley Poppies.

34. The following open spaces were sown with Shirley poppies (*Papaver Rhoeas*) providing a wealth of floral colour in spring. "Ta' Braxia" Glacis, the plot of ground opposite "Ta' Braxia" Glacis; the plot of ground near the Pavilion, Floriana; and the plot of ground near King George V. Hospital.

PUBLIC NURSERIES, MALTA.

General Work.

35. The laborious work of propagating trees, shrubs and climbers, transplanting, training, watering, hoeing, staking etc., received constant attention, and all the nurseries are well stocked with young trees and shrubs. At "Tal-Kmand" Nursery, Lija, besides many ornamental trees, shrubs, etc., the following citrus trees are available :—

Malta Egg-blood Orange	317
Malta Blood Orange	40
Smooth-skinned Egg Orange	191
Valencia Orange	97
Jaffa Orange	52
Bahia Orange	95
Sweet Orange	33
Ordinary Orange	34
Mandarin-orange	113
Lemons	22
Grape Fruit	5
Transplanted Seville orange seedlings to be grafted	1,218
Seville orange seedlings grafted last season	200
Seville orange seedlings in beds	270
	2,687

Trees and Shrubs Supplied.

36. The following table shows the number of trees and shrubs furnished during the year from the Public Nurseries :

To whom supplied	Ornamental trees	Ornamental shrubs	Flowering & foliage plants	Orange & other Citrus trees	Other fruit trees
Public Plantations	974	—	145	—	—
San'Anton Public Garden	8	14	66	26	—
Other Public Gardens ...	127	186	262	—	—
San'Anton Private Gardens	—	9	12	4	—
Govt. Institutions, Malta	10	61	154	—	—
Govt. Institutions, Gozo	—	12	36	—	—
Villa Rundle, Public Plantations & Nurseries, Gozo	204	220	—	—	—
Private Growers	70	128	396	189	39
Total ...	1,393	630	1,071	219	39

Sales.

37. The amount collected from the sale of trees, shrubs, firewood etc. from the Public Plantations and Nurseries was £80. 6. 6½ as against £127. 16. 7 last year.

VILLA RUNDLE AND PUBLIC PLANTATIONS, GOZO.

Villa Rundle.

Maintenance.

38. This garden has been kept in good conditions, and a fine display of flowers was maintained, especially with Roses. Pruning, manuring, watering, hoeing and other routine work were punctually attended to.

Trees and Shrubs Added and Replaced.

39. 1 Orange tree, 1 Sapindus indica, 2 Chrysanthemum frutescens, 1 Tecoma Smithii, and 35 Roses have been added; 1 Araucaria excelsa, 1 Cercis Siliquastrum, 1 Hibiscus rosa-sinensis, 1 Chrysanthemum frutescens and 9 Roses have been replaced. The following plants have been propagated by means of seeds, cuttings and layers : 105 Roses, 16 Acacia cyanophylla, 2 Euonymus japonicus, 5 Veronica spicata and 2 Tecoma capensis.

PUBLIC PLANTATIONS.

Maintenance.

40. The trees along roads and open spaces received constant attention, and new plantations have been added as in previous years, but suffered in the same way as the trees at Malta from the effects of stormy weather, and from damage caused by traffic, men and goats — 32 trees and 97 props were broken, and 143 trees and 33 props were damaged by gales; 48 trees and 24 props were broken, and 23 trees and 28 props were damaged by traffic, men and goats.

Trees Added and Replaced.

41. The total number of trees planted during the year, was 376. Of this number 207 represent replacement of broken and badly damaged trees.

New Plantations.

42. The following is a detailed list of new plantations at Gozo:

Wied tal-Hamimiet, l/o Victoria	6	Tamarix articulata
Victoria—		
Sda. San Duminka	12	Morus alba
Sda. San Leonardo	10	Morus alba
Wied tal-Hamimiet, l/o Victoria	6	Tamarix articulata
Nadur—		
Via Qala	17	Morus alba
Piazza Chiesa	7	Nerium Oleander
Sda. Telegrafo	6	Cupressus sempervirens
Wied Ta' Xhajma	10	Morus alba
Wied Marsalforn	18	Tamarix
Via Marsalforn	6	Eucalyptus gomphocaephala
Sda. Gnien Is-Sultan	48	Tamarix
Sda. Gnien Is-Sultan	18	Melia Azedarach
Sannat—		
Sda. Korsa	4	Morus alba
Total	168	trees

PUBLIC NURSERIES.

Stock of Trees.

43. The Public Nurseries at Gozo consist of "Tad-Dawwara" Nursery in Via Kercem measuring 5/12 of an acre, a small plot of ground used as a nursery at Villa Rundle, and a small plot of ground at "Ta' Grixti", open day and night to the Public and goats to pass through. Owing to this limited space for nursery work, the number of trees of suitable size produced for planting out was, as in previous years, not sufficient to meet the requirements of the Public Plantations, Villa Rundle and Govt. Institutions. The following trees had, therefore, to be supplied from Malta:

On the 2nd July 1937	48	Tamarix trees
On the 1st October 1937	12	Carob trees
On the 22nd October 1937	6	Pine trees
On the 5th January 1938	50	Cypress trees
On the 11th January 1938	60	Celtis trees
On the 20th February 1938	20	Poplar trees
On the 3rd March 1938	5	Oleander trees
On the 3rd March 1938	5	Cypress trees

Trees and Shrubs Supplied.

44. The following table shows the number of trees furnished during the year from the Public Nurseries, Gozo:

To whom supplied	Ornamental Trees	Ornamental Shrubs	Flowering Shrubs	Fruit Trees
Public Plantations, Gozo	169	246	—	—
Villa Rundle, Gozo	3	—	48	1
Private Growers	7	1	3	2
	179	247	51	3

John Briffa,
Superintendent of Public Gardens.

APPENDIX IV.

Report on Plant Pathology for 1937-38.

General Course of the Agricultural Year.

The severe winter and the huge and prolonged downpour of rain which occurred in February have helped to check the multiplication of insect pests.

The spring was rather dry; light frosts in the late season have caused damage to vines by burning the tips of the new sprouts.

The summer and autumn were mild, but scirocco weather was rather frequent.

Review of the most harmful diseases on the most important herbaceous crops.

Some damage was observed on the potato crop produced by the potato moth (*Phthorimaea operculella*, Z) but on the whole such damage was inferior to that experienced the year before.

Rather heavier damages were caused by the potato blight (*Phytophtora infestans*, De Bary), during the spring season 1938; while other severe attacks were again noticed in autumn.

Considerable damage, especially in the Island of Malta, was caused by rusts on cereal crops. The wheat crop was very severely hit.

As regards vegetables the number of parasites was rather limited.

Ditto on Vines.

In some exposed localities the new sprouts were attacked by frosts just after restarting growth, causing damage to blossoms. Everywhere where farmers have neglected to treat the vines with sulphate of copper, *Plasmopara viticola*, has attacked all the green parts of the vines, with the consequent total or partial destruction of the blossoms, according to exposure of the land more or less moist. Damage caused by *Peronospora* was more evident in Malta, particularly in pergolas and in rows of vines along field walls. Other attacks of Peronospora were observed towards the first half of July, whose deleterious effects were limited to the green tops of twigs.

The damage caused by powdery mildew "*Oidium Tukeri*" was normal.

The Jaffa Scale (*Dactylopius vitis*) followed by the soothy mould (*Capnodium salicinum*) has multiplied abundantly also this year.

As regards the "Roncet" of American vines, only individual vines here and there were found affected by the disease.

Phylloxera vastatrix has continued to destroy the surviving vineyards planted on free stock, while those reconstituted on American rootstock were as vigorous as ever and laden with fruit.

Ditto on Fruit-trees.

The ravages caused by the Mediterranean Fruit-Fly (*Ceratitis capitata*, Wied.), contrary to last year, were very limited. The first attacks were observed only towards the first half of July, when the greater part of the stone-fruits had already been picked and consumed. The fly had no opportunity to multiply and the damage caused to citrus fruits later was considerably limited.

The olive fly (*Dacus oleae*) was likewise kept in check.

A huge invasion of aphids of all the sorts present in these Islands was observed at the beginning of Spring 1938. However, it was immediately followed by a great number of lady-birds, and especially by *Coccinella septempunctata*, which in a short time, without recurring to any particular insecticide, succeeded to check the multiplication of the aphids.

There was a great dissemination of weevils, especially on plum-, pear- and apple-trees. Cases were not rare in which plum-trees were completely defoliated.

The ravages by the caterpillar of the *Diloba coeruleocephala*, L. in the almond orchards at Sliema, Misida and Balzan were considerable. The caterpillars first completed the defoliation of the trees, and afterwards started gnawing the green fruit.

The damage caused by scale insects was not very evident this year. Only in the month of September a large multiplication of scale insects occurred. *Chrysonphalus dictyospermi* multiplied considerably during that month.

Apple- and pear-trees were also this year attacked by the codlin moth (*Carpocapsa pomonella*).

Slight attacks were caused by Woolly Aphis (*Eriosoma lanigerum*) on apple-trees, which were immediately stopped by the Aphelinus mali, imported from Italy in 1934. The Aphelinus appears to have found an optimum of conditions for its multiplication in these Islands.

Fruit-trees, rather than from insect pests, have suffered more from fungous diseases, such as, *Exoascus deformans*, *Ascospora Beyerinkii*, *Sphaeroteca pannosa*, *Venturia pirina*, and *Venturia inaequalis*.

Departmental Activities.

Advisory work, observations, identifications of diseases and pests and treatment of trees in the gardens and plantations administered by this Department were limited to normal.

The campaign against the parasites of fruit-trees, started last year, was intensified by means of practical demonstrations carried out with Departmental materials and labour in the larger districts. For this purpose hundreds of peach-trees, pear- and apple-trees, citrus-trees, etc., were pruned and properly treated.

An attempt was made to introduce from America the *Habrobracon Johannseni*, Vier., an endophagous parasite living at the expense of the Potato Moth (*Phthorimaea operculella*). The result of this first attempt was, however, negative.

Imports subject to Phytopathological Restrictions.

There were 720 consignments subject to phytopathological restrictions during the period November 1937-October 1938.

These consisted of citrus-fruits imported from Sicily, Tripoli, Tunis, Palestine, Alexandria, Spain, South Africa, Cyprus, Australia, California and Brazil. Table potatoes from the Netherlands, Italy and the Irish Free State. Onions from Alexandria and Italy. Garlic from Sicily. Fruit-trees, ornamental shrubs and flowering bulbs from Sicily, Italy, Tripoli, Alexandria and Greece. Leaf mould from Sicily.

The following table show in schedule form the imports which were subject to phytopathological restrictions :—

Imports	No. of Consignments	Quantity
Oranges	378	About 587,746 dozen
Lemons	137	„ 102,880 „
Mandarines	53	„ 34,012 „
Grapefruit...	30	„ 6,588 „
Table Potatoes	30	1,716,480 kilos
Onions	8	890 bags
Garlic	1	5 bags
Fruit-trees and ornamental shrubs	63	213 baskets, 15 bundles, 4 cases, 16 parcels and 16 plants.
Flowering bulbs	9	2 cases, 5 chests and 7 barrels
Leaf mould	11	143 bags and 1 case
	720	

74 consignments accompanied by the prescribed certificates were released after examination and registration of the documents.

5 consignments of oranges and grape-fruit, imported from Palestine, Alexandria, and South Africa, infested with Scale Insects were withdrawn by the Department and released after disinfection. These consignments consisted of 81 cases of grape-fruit and 169 cases of oranges.

200 cases of oranges imported from Palestine were refused importation into these Islands in terms of Regulations published by Government Notice No. 307 of 1923, of which 31 cases were re-exported and 169 cases were thrown into the sea for destruction under the supervision of a Customs Officer. Under the same terms 2 parcels of grape-fruit were withdrawn by the Department and destroyed.

A. DeNardo.
Acting Plant Pathologist.

Valletta, 22nd November, 1938.

APPENDIX V.

Report of the Adviser in Agricultural Marketing and Controller of Agricultural Exports.

1. GENERAL EXPORT CONTROL ADMINISTRATION.

During the 1937-38 season, a total of 82 persons or firms were registered as exporters of agricultural produce (1934-35, 71; 1935-36, 72; 1936-37, 68) and 79 middlemen were licensed as brokers (1934-35, 110; 1935-36, 85; 1936-37, 80).

The standard form of note of weight for general use with produce for export was again sold as books of notes in quadruplicate at cost price to public weighers. 8,820 such notes of weight were issued during the 1938 season as compared with 11,380 in 1935, 10,920 in 1936 and 9,840 in 1937. These books of notes of weight were returned at the end of the export season and checked.

Owing to the pressure of export inspection, little checking of sales for export in the country could be carried out until after the termination of the principal onion exports. A random check was then made throughout the country districts: 24 towns and villages and their vicinities were visited, the books of 44 weighers were inspected and 273 farmers were interviewed to ascertain particulars of their produce sales, these details being subsequently checked with the relative notes of weight. In all instances the farmers interviewed had received the correct payment.

Correspondence was carried on with official and trade circles abroad with reference to general trade matters and, in addition, circulars were frequently issued to exporters and brokers with reference to seed potato supplies, crop prospects, etc.

Preliminary arrangements have been completed for the enclosure of the existing Inspection Shed and for the provision of an additional enclosed Inspection Shed. This work, which is urgently required for the operation of efficient control and for the protection of produce awaiting shipment, is to be financed by a Colonial Development Fund loan of £3,000 which it is proposed to repay by levying a storage rental charge of ½d. per cwt. on produce brought to the Inspection Sheds for inspection and for storage whilst awaiting shipment. Plans have been prepared and approved and it is expected that the work should be completed in readiness for the 1940 export season.

2. LEGISLATION.

Following discussions at meetings of exporters and brokers, various changes in the export regulations were introduced.

The colour marking of grades by packers, which gave very satisfactory results when introduced with the onion exports in 1937, was extended to cover also potatoes.

Length size grades for kidney shaped potatoes were substituted for the square gauge size grades: the existing square gauges were retained for round shaped potatoes. This change was necessary since some kidney shaped potatoes which were much too large for a medium size grade were, with the square gauges, being included in the Grade A.

In order further to eliminate the possibility of mixing packages of different grades, regulations were introduced which require that containers packed with different grades of produce shall not be exported under the same shipping mark.

These amending regulations were published as Government Notices Nos: 90 and 91 dated the 21st February, 1938.

3. POTATOES.

The non-irrigated winter crop of potatoes germinated fairly early with early autumn rains and progressed satisfactorily until a strong dry wind in mid-November terminated growth almost generally throughout the island some three or four weeks before the crop would have reached maturity. As a result the crop was small and the tubers were

generally undersized though clean from soil and free from blight. Winter crop exports, which are shown in detail in tabular form, were in consequence below average. Prices to farmers for export, which averaged around, 4½ scudi per qantar, were fairly satisfactory.

Total seed imports for the spring crop were somewhat below average : there was a considerable increase in the imports of white fleshed seed potatoes, both of the Up-to-Date and Arran Banner varieties, particularly of the former, with a corresponding decrease in imports of the Champion variety (c.f. tabulated details in Section 8.—Imports of Seed Potatoes). Germination was good, but, with planting beginning later than usual and with the winter being colder and wetter than average, growth was retarded and shipments were negligible until the end of April. Most of the exports to the United Kingdom were made during May, but appreciable quantities were also shipped to Holland in early June.

Prices to farmers for Champion, Up-to-Date and Arran Banner ranged from 9½, 9 and 7½ scudi per qantar respectively in early May, to 6½, 7½ and 5½ scudi respectively in mid-May, and 5½, 6 and 5 scudi respectively towards the end of May, the price for Champion being maintained at around 5½ scudi in early June.

The market in England and Scotland was active until around the end of the 3rd week of May when the demand slackened considerably : the bulk of the white fleshed crop was, however, shipped in time to secure the farmers good returns. The market for export to Holland was fairly satisfactory but was somewhat uncertain owing to the crisis-tax situation : information was received in early April that after the 15th May the tax was to be increased from 3 to 5 cents per kilo : however, as the result of representations made officially and by the trade in Holland, the date of the imposition of the increased levy was successively postponed until the 1st, 11th, 20th, and 27th June and the 1st August and finally the tax was left unchanged for the balance of the year.

As regards potato moth infestation, following the cold wet winter, apart from two isolated cases which were detected during inspection on the 29th April and the 4th May, no infestation was observed until the 18th May : after this date infestation was observed more frequently but it did not become common until after the 30th May. In connection with inspection for potato moth on arrival in the United Kingdom, following representations made by this Department, the authorities agreed to try out for a season the re-inspection of "marks", when refused on first inspection of potatoes in the United Kingdom during the 1939 export season. Refusals appreciably the number of packages refused on account of potato moth infestation. Subject to some modification, it is hoped to retain this system of inspection and re-inspection of potatoes in the United Kingdom during the 1939 export season. Refusals on account of potato moth in 1938 totalled 648 packages at English ports (about 1¾% of the exports to England) and 572 packages at Scottish ports (about 1½% of the exports to Scotland) : being relatively small quantities, the loss involved was not great, and the refused packages were disposed of without much trouble to the Continent and for provisioning ships.

In connection with the inspection of potatoes for export during the 1938 season, 696 licences for export were issued (1935, 706; 1936, 808 and 1937, 844). In the course of inspection, a total of 7,450 packages were refused for export (1935, 2,161; 1936, 4,287 and 1937, 6,252) this total including 3,391 packages refused on account of moth infestation as compared with 1,149 in 1936 and 3,711 in 1937. These refusals for export involved 416 refusals of lots or parts of lots on delivery on the quay, 106 refusals being on account of moth infestation. With refusals for export other than on account of moth infestation or of mixing of varieties, the produce was mostly passed for export after re-grading. In cases of moth infestation, the refused lots were, when such action was requested, re-inspected package by package after a lapse of about 10 days and packages then showing no trace of infestation were passed for export : it should be pointed out, however, that such individual package inspections take up a considerable

amount of time and that in the case of very considerable and general moth infestation re-inspections might not be possible with all produce refused on this account. The exports of potatoes during the period 1934-38 are shown in the following Tables, which also indicate the quantities shipped to the principal export markets.

Winter Crop Potato Exports — (1934-1938)

(Tonnage approximate — calculated from numbers of containers)

Importing Countries	1934	1935	1936	1937	1938
United Kingdom ... tons	—	40	146	164	40
Holland ... ... ,,	284	694	950	62	112
Belgium ... ... ,,	199	153	1,049	1,165	436
Ceylon ... ... ,,	193	322	861	424	757
Miscellaneous ... ... ,,	85	—	—	102	3
Total Exports	761	1,209	3,006	1,917	1,348

Spring Crop Potato Exports — (1934-1938)

(Tonnage approximate — calculated from numbers of containers)

Importing Countries	1934	1935	1936	1937	1938
United Kingdom ... tons	1,319	1,365	1,476	5,051	4,434
Holland ... ... ,,	8,875	5,620	4,500	5,327	5,476
Belgium ... ... ,,	356	645	2,068	649	100
Ceylon ... ... ,,	274	23	11	120	98
Miscellaneous ... ... ,,	543	271	—	244	40
Total Exports	11,367	7,924	8,055	11,391	10,148

Total Annual Potato Exports — (1934-1938)

	1934	1935	1936	1937	1938
Winter Crop Exports (1). tons	761	1,209	3,006	1,917	1,348
Spring Crop Exports (1). ,,	11,367	7,924	8,055	11,391	10,148
Total Exports (1). ... ,,	12,128	9,133	11,061	13,308	11,496
Total Exports (2). ... ,,	12,313	9,279	11,355	13,695	11,722
Values (2)	£ 105,370	£ 108,323	£ 98,180	£ 116,415	£ 116,860

Notes:—(1) Tonnage approximate—calculated from numbers of containers.
(2) Tonnage and values taken from Customs Returns.

Detailed Statement of Potato Exports in 1938

Importing Countries	Winter Crop				Spring Crop			
	Casks	Half-casks	Bags	Baskets	Casks	Half-casks	Bags	Baskets
United Kingdom	—	639	558	228	103	19,772	39,596	17,143
Holland	569	27	365	—	27,874	427	19,644	
Belgium	717	988	4,833	—	—	—	2,000	—
Ceylon	—	—	15,143	—	30	221	1,501	—
Miscellaneous	—	—	72	—	—	508	—	—
Totals	1,286	1,654	21,971	228	28,007	20,928	62,741	17,143

4. CUMIN SEED.

There was a further decrease in the acreage planted with cumin seed in 1938 and, in addition, yields were below average: particulars of acreage and yield are given elsewhere in this report. Weather conditions prior to reaping were satisfactory and the quality of the seed was good. Prices for export remained at a relatively low level, farmers receiving around 32/- per cwt.

The cumin seed export regulations have now become well established and their enforcement calls for little comment. By inspection and by analysis of samples taken from consignments for export the quality of the seed was well maintained.

All the seed exported during the year ending November, 1938, was Grade 1, that is, containing less than 5% foreign matter, except 11 shipments of Grade 2 seed exported by special permission on presentation of the necessary documents. The majority of the Grade 2 shipments were made to Tunis.

During the year ending November, 1938, 136 samples of seed were analysed for purity in connection with export inspection, 4,005 bags of seed were exported and 112 licences for export were issued, the corresponding figures for inspection during the year ending November, 1937, being 147 analyses, 4,855 bags exported, and 99 licences issued.

The 136 analyses carried out during the year ending November, 1938, include 7 analyses following refusals and recleaning of seed: during the year 7 consignments or parts of consignments totalling 220 bags were refused for export on first inspection as compared with 12 consignments totalling 503 bags refused for export in the previous year.

At the end of the export season, the stores of the cumin seed dealers in the country were inspected in connection with provision of suitable storage accommodation and prevention of insect infestation.

Exports of cumin seed in recent years may be briefly summarised as follows:—

Importing Countries	Percentage of exports of Cumin Seed in						
	1932	1933	1934	1935	1936	1937	1938
South American countries	16	5	37	35	30	44	36
Germany	20	31	23	5	9	5	3
Holland	12	21	16	16	18	18	21
France	20	7	5	20	21	17	8
Scandinavia	1	2	2	7	6	4	7
Other European countries (2)... ...	8	11	6	12	6	12	10(1)
North African countries	8	18	4	5	5	under 1	11
Miscellaneous countries	6	5	7	under 1	5	——	4
Total Exports, cwts.	6,639	5,228	5,004	5,333	3,724	4,339	4,105
Total Values	£7,797	£7,757	£11,667	£11,342	£6,715	£7,637	£7,816

Notes:— (1) Mostly to Portugal — 335 cwts.

(2) Exports to the United Kingdom are included under imports "Other European countries". Exports to the United Kingdom in recent years have been:— 1934, 100 cwts; 1935, 450 cwts; 1936, 192 cwts; 1937, 428 cwts; and 1938, 79 cwts.

It is seen that the increased direct export to the consuming countries in South America is being maintained and that, after South America, Holland is the importing country next in importance.

5. ONIONS.

The effect of the wet season on the onion crop is clearly shown in the percentages of the different grades exported, the percentage of Grade A in 1938 being much less than in 1937 when there was a relatively dry spring but approximating to that in 1936 when there were late rains.

Year	Grade A. (medium)	Grade B. (large)	Grade C. (small)
1936	56%	43%	1%
1937	67%	32%	1%
1938	54%	44%	2%

The wet season also resulted in a large number of onions going to seed in the field and, when exports began, a large number of packages had to be refused, pending resorting, on this account (thick necks and seed stems — known locally as "bont").

During the season, 199 licences for export were issued as compared with 144 in 1937. In the course of inspection 5,946 packages were refused for export (2,004 in 1936 and 1,933 in 1937) these refusals involving 185 refusals of lots or parts of lots on arrival on the quay. Refusals for export were principally on account of "bont", poor size grading and mixing of varieties: the refused onions were mostly sorted under supervision on the quay and then passed for export.

The exports in 1938 as compared with the exports during the previous ten years are shown in the following Table. The most noteworthy features are the further considerable increase in total exports, both as regards quantity and value, and the continued further expansion of the exports to the United Kingdom.

Exports of Onions from Malta (1928-38)

Year	United Kingdom		Holland		Belgium		Scandinavia		Miscellaneous		Total Exports	
	cwts.	£	cwts.	£	cwts.	£	cwts.	£	cwts.	£	cwts.	£
1928	3,802	587	28,464	4,405	1,588	446	898	258	27,767	5,427	62,519	11,123
1929	2,420	435	43,661	7,513	2,939	549	384	66	33,893	7,939	83,297	15,502
1930	5,385	663	19,254	2,829	400	60	545	115	24,291	4,720	49 875	8,387
1931	7,036	1,442	15,296	3,618	1,326	400	316	82	4,876	1,242	28,910	6,784
1932	12,498	3,064	42,084	7,846	1,027	442	841	136	11,844	2,917	68,294	14,455
1933	2,510	414	13.672	1,027	3,055	132	452	88	4.148	699	23,837	2,360
1934	1.526	212	16,981	1,882	—	—	7,131	1,038	4,471	612	30,109	3,744
1935	1,130	295	1,134	326	859	235	8,478	2,825	885	154	12,436	3,863
1936	19,710	4,508	9.066	2,368	7,560	1,803	9,758	2,864	146	56	46,440	11,599
1937	41,689	10,062	2,226	547	605	75	3.915	1,177	—	—	48,435	11,861
1938	79,855	23,294	4,068	908	—	—	2,371	1,200	—	—	86,294	25,402

Note:— The miscellaneous exports in previous years were made principally to North Africa (Tunis and Lybia) and to Italy with, in addition, fair quantities to Germany and Austria during the 1927-30 period.

The following tabular statement shows in detail the 1938 crop exports to various destinations, including a few exports made in January, 1939:—

Exports to	Bags	½ Bags	Baskets	½ Baskets	Boxes	Total Containers
United Kingdom	71,678	8,121	1,323	947	2,661	84,730
Holland	530	2,979	2,158	—	1,000	6,676
Norway	1,395	—	—	—	—	1,395
Sweden	54	—	—	—	—	54
Total... ...	73,666	11,100	3,481	947	3,661	92,855

6. MISCELLANEOUS CERTIFICATES.

No commercial certification of agricultural produce, other than of potatoes, onions and cumin seed, was requested during the year.

Where the certification of origin in the export licences (commercial export certificates) and/or in the phyto-pathological certificates did not meet the requirements of importing non-Empire countries, a separate certificate of origin was issued as a supplement to the export licence free of charge. During the year 55 such certificates were issued.

7. PHYTO-PATHOLOGICAL INSPECTION OF PRODUCE FOR EXPORT.

The principal work in this connection was the inspection for potato moth infestation, which is dealt with elsewhere in this report, and the certification of exports of onions to Scandinavia. Routine correspondence was also carried on regarding certification of produce to various destinations. The numbers of phyto-pathological certificates issued to meet the requirements of importing countries or consignees, as compared with the corresponding numbers of certificates issued in 1936 and 1937, are tabulated below.

Period	Number of certificates issued for export consignments of				Total number of certificates issued
	Potatoes	Onions	Cumin Seed	Miscellaneous Produce	
1936	292	41	21	11	365
1937	345	40	11	14	410
1938	244	40	6	13	303

8. IMPORTS OF SEED POTATOES.

The tabulated statement given below shows the quantities of seed potatoes imported for the 1938 spring crop and also the countries of origin of the various varieties. For comparison, the total quantities of the different varieties imported during the previous four seasons are also shown.

Countries of Origin	Quantities of varieties imported in cwts.						Total quantities in cwts (per season or from each country of origin)
	Champion	Up-to-Date	Northern Invincible	Arran Banner	Eigenheimer	Miscellaneous	
Total 1933-34	61,532	9,690	8,038	310	—	492	80,062
Total 1934-35	61,190	12,562	6,930	1,120	700	882	83,384
Total 1935-36	72,048	11,954	6,920	5,430	1,800	20	98,172
Total 1936-37	51,129	13,914	1,714	11,635	5,650	300	84,342
1937-38 Season:							
Northern Ireland ...	32,225	20,325	391	6,400	—	9	59,350
Irish Free State ...	1,206	4,400	—	9,700	—	4	15,310
Austria...	—	—	—	—	—	20	20
Total 1937-38 ...	33,431	24,725	391	16,100	—	33	74,680

Note:— Prior to 1936-37, practically all the seed potatoes were imported packed in 2 cwt. bags. In 1936-37, 12,114 cwts. were imported packed in 2 cwt. bags and the balance was packed in 1 cwt. bags. In 1937-38, all the seed imports were packed in 1 cwt. bags. This change in the size of bag used for packing seed potatoes was made further to Government Notice No. 281 of 24th July, 1936.

All consignments of seed were inspected on arrival and a record was kept of the amount and type of wastage present in each bag examined, a sample of 50 or 100 tubers being taken at random from each bag inspected and examined in detail. The wastage present in the different varieties on arrival, according to the figures recorded during inspection, is shown in the following table.

Varieties of Seed Potatoes	1937-1938 Season						1936-1937 Season	
	Number of bags examined	Average percentage affected with			Percentage Blight and Wet Rot	Total Percentage Wastage	Percentage Blight and Wet Rot	Total Percentage Wastage
		Blight	Wet Rot	Dry Rot				
Champion	1,276	1·5	2·0	2·8	3·5	6·3	6·2	9·3
Up-to-Date	977	1·1	2·0	2·7	3·1	5·8	5·9	8·6
Arran Banner... ...	554	0·2	1·3	1·7	1·5	3·2	2·9	5·0
Northern Invincible ...	27	0·8	2·3	3·1	3·1	6·2	5·6	7·1

By reference to the four right-hand columns of the above table it is seen that the condition on arrival of the seed in 1937-38 was much better than in 1936-37. Largely on account of the introduction of the 1 cwt. bag pack, the seed arrived in much drier condition and was less bruised than in previous years and, in consequence, apart from being in much better condition on arrival, it was noticeable that the increase in wastage between the times of arrival and planting was much reduced.

10th April, 1939.

(Sgd.) A. C. Shill,

Adviser in Agricultural Marketing
and Controller of Agricultural Exports.

APPENDIX VI.

Report of the Soil Engineer in charge of Fertile Soil Perservation for the calendar year 1938.

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1. NOTICES RECEIVED REGARDING SOIL PRESERVATION.

In terms of the provisions of the Fertile Soil Preservation Ordinance 834 notices were received by my sub-Department during the year under review. Of this number 741 referred to Malta while the balance of 93 came from Gozo. This corresponds with 883 with respect to Malta and 100 as from Gozo in the previous twelve months of 1937.

2. AMOUNT OF SOIL PRESERVED.

The amount of soil saved in each district was as follows:—

MALTA.

Hamrun	2,348	Cubic Yards
Pietà	8,293	,,
Birkirkara	7,477	,,
Msida	2,044	,,
Mosta	876	,,
St. Paul's Bay	1,838	,,
Sliema	739	,,
Għargħur	419	,,
Gżira	2,947	,,
Mellieħa	110	,,
St. Julian's	2,824	,,
Naxxar	1,154	,,
Pawla	6,230	,,
Qormi	3,886	,,
Mqabba	920	,,
Qrendi	395	,,
Attard	310	,,
Birżebbuġa	3,682	,,
Marsaxlokk	1,072	,,
Marsa	3,507	,,
Balzan	355	,,
Kirkop	385	,,
Għaxaq	305	,,
Gudja	80	,,
Wied il-Għajn	185	,,
Mġarr	675	,,
Rabat	1,687	,,
Żurrieq	2,958	,,
Żebbuġ	470	,,
Żabbar	3,789	,,
Tarxien	3,520	,,
Siġġiewi	835	,,
Dingli	495	,,
Lija	45	,,
Kalkara	817	,,
Żejtun	2,606	,,
Luqa	840	,,
Miscellaneous	110	,,
Total of Cubic Yards in Malta	71,228	

Gozo.

Nadur	2,394	Cubic Yards
Kerċem	467	,,
Xagħra	118	,,
Għajnsielem	240	,,
Rabat	855	,,
Għarb	775	,,
Żebbuġ	345	,,
Xewkija	252	,,
Marsalforn	565	,,
Santa Luċija	140	,,
Għasri	700	,,
Qala	636	,,
Sannat	260	,,
Total of Cubic Yards in Gozo ...	7,747	
Total of Malta and Gozo ...	78,975	Cubic Yards

3. COMPARISON WITH OPERATIONS DURING 1937.

The Fertile Soil Preservation Ordinance has been responsible for the saving of 71,228 cubic yards in Malta and 7,747 cubic yards in Gozo, aggregating 78,975 cubic yards, during the year under consideration. For purposes of comparison it is to be noted that in 1937, 67,691 cubic yards were saved in Malta and 8,046 cubic yards were saved in Gozo, totalling 75,737 cubic yards.

The Fertile Soil saved during the year under review was put to the following purposes :—

Formation of 187 back gardens involving 11,274 cubic yards; 7,727 cubic yards for reclamation of 99 fields at rear of building sites where rocky surfaces were covered; and 29,425 cubic yards for the reclamation of 119 fields, excluding the Government Experimental Farm. This means the conversion of waste land into arable land.

As usual, we had many applications from private individuals desiring to obtain fertile soil either for reclaiming their waste lands or for adding to that already existing in their gardens and orchards. In many instances we put such applicants in communication with those individuals who, we knew, had to remove soil on account of structural operations being contemplated; all operations that ensued were carried out with our approval and under our supervision. In other instances such requests for fertile soil, were dealt with directly by us, and, acting on our orders, the required numbers of lorry-loads were transferred to the new sites, where they were required. Sub-joined is a list of the sites that received soil in this way.

Tree Garden in Inguanez Street, Rabat.
Tree Garden in Howard Street, Sliema.
Tree Garden in Prince of Wales Road, Sliema.
Tree Garden in Dabbart House, Ta' Xbiex.
Tree Garden in Parva Domus, St. Julian's.
Tree Garden Pasteurization Centre, Hamrun.
Tree Garden Sqaq il Qattus, Birkirkara.
Tree Garden in Fifth Street, Msida.
Tree Garden in Via Tarxien, Luqa.
Tree Garden in Via Cospicua, Għajn Dwieli.
Tree Garden in Parisio Street, Gżira.
Tree Garden in White House, Race Course Street, Marsa.
Tree Garden in Strada Reale, Lija.
Tree Garden in Police Depot, Valletta.
Tree Garden in Addolorata Cemetery.
Tree Garden Marsa Race Course.
Tree Garden Knockholt House, Fleur-de-Lys, Birkirkara.

4. RECLAMATIONS.

Notable instances of reclamation during 1938 were as follows :—

1.	Lands of Gius. Schembri, Guardamanga	84	Cubic Yards
2.	Lands in John Barbara Street, Hamrun	64	,,
3.	Lands in Santa Vennera	120	,,
4.	Lands at Floriana, St. Philip's Ravelin	1,195	,,
5.	Lands in Parva Domus, St. Julian's	500	,,
6.	Lands Ta' Fazolu, Mensija	925	,,
7.	Lands in new playground, Mriehel	250	,,
8.	Lands at Misraħ Għonoq, Mosta	440	,,
9.	Lands behind Vincenzo Bugeja Institute	345	,,
10.	Lands tal-Paromu, Birkirkara	790	,,
11.	Lands at Wied Inċita	95	,,
12.	Lands near Old Railway Line, Birkirkara	260	,,
13.	Lands in Sqaq iż-Żiemel, Birkirkara	90	,,
14.	Lands at Wied Inċita (another)	200	,,
15.	Lands ta' Menzju at Tal-Balal	660	,,
16.	Lands in St. Mary Street, Naxxar	144	,,
17.	Lands Lija Reservoir	180	,,
18.	Lands at Baħrija	400	,,
19.	Lands at Sgħajtar, Naxxar	454	,,
20.	Lands in St. Paul's Street, Birkirkara	48	,,
21.	Lands on the road to Rabat from H-Attard	90	,,
22.	Lands near Old Railway Line, Birkirkara (another) ...	150	,,
23.	Lands on the Mosta Road	50	,,
24.	Villa Desain, Msida	350	,,
25.	Lands in Birkirkara Road to Gżira	272	,,
26.	Lands in Via Valletta, near Old Windmill, Birkirkara ...	65	,,
27.	Lands Xagħra ta' Sta. Margherita, Mosta	207	,,
28.	Lands Xagħra ta' Sta. Margherita, Mosta	135	,,
29.	Lands Eucharistic Congress Street, Mosta	53	,,
30.	Lands in Wied Ċianonu, Mosta	140	,,
31.	Lands in Wied Qammotta, Wardija	702	,,
32.	Lands at Bur Marrod, St. Paul's Bay	212	,,
33.	Lands at Bur marrod, St. Paul's Bay (another)	295	,,
34.	Lands at Pwales, St. Paul's Bay	85	,,
35.	Lands at Misraħ Lewża	85	,,
36.	Lands in Villa Dragonara	114	,,
37.	Lands tas-Surmast, Mensija	701	,,
38.	Lands in Birkirkara road to Gżira (another)	435	,,
39.	Lands in Manoel Street, Gżira	180	,,
40.	Lands in Birkirkara Road to Gżira (another)	140	,,
41.	Lands Sta. Vennera (another)	30	,,
42.	Lands St. Andrew's Military Barracks	1,200	,,
43.	Lands at Baħar-iċ-Ċagħaq	350	,,
44.	Lands ta' Mosè tal-Kalkara, St. Julian's	72	,,
45.	Lands at tas-Swieqi, St. Julian's	152	,,
46.	Lands at tas-Swieqi, St. Julian's (another)	100	,,
47.	Lands in Sda. Sta. Maria, Naxxar	562	,,
48.	Lands ta'-Boros, Pawla	213	,,
49.	Lands tal-Ombra, Pawla	100	,,
50.	Lands ta' Berikka, Żejtun	120	,,
51.	Lands of Antonio Dalli, Luqa	365	,,
52.	Lands t'Ormos, Tarxien	90	,,
53.	Lands East of Addolorata Cemetery	650	,,
54.	Lands tal-Wi'ġa, Pawla	120	,,
55.	Lands at Cospikwa Road, Pawla	65	,,
56.	Lands tal-Kamra, Pawla	115	,,

57.	Lands at Mtarfa Road, Attard	45	Cubic Yards
58.	Lands tan-Naqqu, Birżebbuġa	230	,,
59.	Lands at Hal-Far, near Aerodrome Station	1,500	,,
60.	Lands behind Birżebbuġa Parish Church	70	,,
61.	Lands on the Road to Fort St. Lucian, Birżebbuġa ...	80	,,
62.	Lands tal-Papa, Birżebbuġa	70	,,
63.	Lands ta' Farfar, Birżebbuġa	35	,,
64.	Lands opposite Għar-Dalam, Birżebbuġa	90	,,
65.	Lands tal-Brulli, Birżebbuġa	30	,,
66.	Lands taż-Żejt, Mqabba	125	,,
67.	Lands ta' Wied Kosta, Qrendi	220	,,
68.	Lands tas-Safra, Mqabba	50	,,
69.	Lands tal-Isqof, near Kirkop Cemetery	75	,,
70.	Govt. lands at Mtarfa	240	,,
71.	Lands tal-Gvern, Nigret, Rabat	60	,,
72.	Lands of G. Pisani at Nigret, Rabat	60	,,
73.	Lands at Via Palma, Mtarfa	45	,,
74.	Lands Virtù Road, Rabat	50	,,
75.	Lands near Xierfa Palace, Rabat	65	,,
76.	Lands tax-Xifer, Għajn Tuffieħa	105	,,
77.	Lands tad-Dukkara, Marnisi, Marsaxlokk	634	,,
78.	Lands tal-Bajjada, Marsa	240	,,
79.	Govt. Lands at Wied Inċita, Attard	280	,,
80.	Lands at MrieħelRoad to Rabat	30	,,
81.	Lands taż-Żajjar, Qormi	506	,,
82.	Lands tal-Biedi, Qormi	100	,,
83.	Lands at Qormi, Pinto Street	45	,,
84.	Lands at Qormi, Dun Mario Street	350	,,
85.	Lands ta' Jannaru, Qormi	44	,,
86.	Lands ta' Ruman, Qormi	225	,,
87.	Lands near Church tal-Hlas, Qormi	294	,,
88.	Lands tal-Mgħaluq, Wied il Għajn	90	,,
89.	Lands taż-Żebbuġa, Gudja	80	,,
90.	Lands tal-Għomu, Żabbar	360	,,
91.	Lands ta' Xiorxa, Żabbar	245	,,
92.	Lands tax-Xemx u l-Qamar, Żabbar	160	,,
93.	Lands at Felice Street, Żabbar	150	,,
94.	Lands tal-Midej, Żabbar	45	,,
95.	Lands tal-Hawli, Kottonera	332	,,
96.	Lands Tal-Wireless, Kalkara	70	,,
97.	Lands ta' Sqajjaq, Tarxien	125	,,
98.	Lands at Tarxien, road to Birżebbuġa	236	,,
99.	Lands at Tarxien, road to Gudja	376	,,
100.	Lands ta' Misrah Psajkon, Dingli	30	,,
101.	Lands tas-Sejfu, Dingli	150	,,
102.	Lands at road to Buskett, Rabat	75	,,
103.	Lands taċ-Ċarruta, Dingli	50	,,
104.	Lands tal-Għarajjex at Hal-Far	129	,,
105.	Lands tad-Dawl, between Luqa and Żurrieq	2,300	,,
106.	Lands ta' Karċeppu at Siġġiewi	155	,,
107.	Lands ta' Blat il-Qamar, Siġġiewi...	75	,,
108.	Lands ta' Hal-Xluq, Siġġiewi	250	,,
109.	Lands tas-Salib, Siġġiewi	250	,,
110.	Lands tat-Tomnejn at Bir-id-Deheb	130	,,
111.	Lands ta' Has-Sajjed, Żabbar	1,024	,,
112.	Lands ta' San Niklaw, Żejtun	120	,,
113.	Lands ta' Wied iz-Zijju, Żejtun, Ramla Road	90	,,
114.	Lands tan-Nassa, Żejtun	55	,,

115.	Lands near Our Lady of Mercy Church, Bir-id-Deheb ...	55	Cubic Yards
116.	Lands ta' San Tumas at Luqa	55	,,
117.	Lands in road to Gudja, Għaxaq	60	,,
118.	Lands ta' Frassett, Għaxaq...	30	,,
119.	Lands tal-Lewż, Għaxaq	65	,,
	Total, Fields reclaimed utilising	29.425	,,

Ta' Braxia Glacis received a complement of 786 cubic yards; this in addition to 1,614 cubic yards, which were dumped there last year and 3,877 cubic yards which it had absorbed in 1936.

Further, all the plots in the Harper Area received as much soil as they required; their amenities as flower-beds and otherwise being altogether due to the functioning of the Fertile Soil Preservation Ordinance.

A very praiseworthy example of reclamation has been set at tal-Motz, via Ramla, in the district of Żejtun, where private effort has resulted in an area of about half a salm, which was formerly a tract of rock interspersed with sundry pockets of soil, being metamorphosed into a series of irrigated fields. This has involved the cutting away of much surface rock and the transport thither of a considerable amount of fertile soil, this latter material being available owing to the provisions of the F.S.P.O. This case deserves more merit than is *prima facie* apparent, because the soil for reclamation purposes had to be obtained from many and different localities at considerable distance from this place.

Government Experimental Farm, Ghammieri.

Ever since the promulgation of the Fertile Soil Preservation Ordinance, it has been one of the main principles of our policy to forward as much fertile soil as conveniently possible to the Government Experimental Farm at Ghammieri, Marsa. Year by year the amount transported has ever been on the increase, and the *crescendo* of previous years has been fully maintained during the twelve months under review when an aggregate of 11,658 cubic yards was dumped there for reclamation purposes. It is superfluous to state that work on the spot has collaborated to ensure a maximum of the good results obtained which, under every circumstance, can furnish an object lesson as to how things should be done. These facts have already been noticed by an appreciative press.

5. PROPOSALS FOR AMENDMENT OF ORDINANCE.

This sub-Department has had some trouble in enforcing the provisions of the Law with which it is entrusted, owing to the fact that carters and others working as transporters of soil do not come specifically within the terms of the articles of the Fertile Soil Preservation Ordinance. It would facilitate our work immensely if such persons could be brought within the ambit of the Law.

6. EXPROPRIATIONS BY THE IMPERIAL AUTHORITIES.

The continued expropriations by the Fighting Services presents us with a problem which gives much food for thought. To the areas embraced by Ta' Vnezia, Luqa, and Hal-Far, are to be added sundry sites lying between Siġġiewi and Mqabba, which are being irrevocably withdrawn from agriculture. In my opinion, some policy should be formulated in order to compensate for the loss of farm-lands which are so vitally necessary to all the inhabitants of these islands, without distinction.

GOZO.

The sister island still maintains its record of involving my sub-Department in the minimum of trouble in so far as the Fertile Soil Preservation Ordinance is concerned. I have already dwelt upon the traits of this community of agrarians who lose no opportunity of benefiting their farmsteads.

7. Fort Chambray.

I consider it my duty to draw your attention to the work of reclamation which has been started in this Institute and has made much marvellous progress in so brief a time and with such limited resources for acquiring the necessary soil. No endeavour should be spared on our part to stimulate, encourage, and forward the progress and ultimate completion of the work which has been taken in hand. With this object in view I submit for your consideration, that, where Government works are involved, any available fertile soil should be transported to Fort Chambray.

8. SOIL EROSION AND CONSERVATION.

In compliance with instructions received from the Secretary of State for the Colonies in the early part of the year, I submitted my report on soil erosion and conservation, treating the problem in the particular phases which affect these our Islands. Copies of this report and covering latter are annexed herewith.

9. ACTIVITIES AND EXPENDITURE.

It is a matter of regret on my part to have to state that the activities of my sub-Department have again been inevitably curtailed this year owing to the economy which has been imposed on us due to shortage of funds.

31st December, 1938.

R. J. D. Cousin,
Soil Engineer.